

## Identity goods

**Mamadou Youssouf Thiam\***, Purdue University, 610 Purdue Mall, West Lafayette, IN 47907, United States.  
[mthiam@purdue.edu](mailto:mthiam@purdue.edu)

### Suggested Citation:

Thiam, M.Y (2023). Identity goods. *Global Journal of Information Technology: Emerging Technologies*. 13(2), 55-63.

Received from; March 12, 2023, revised from; April 24, 2022, and accepted from July 11.

Selection and peer review under the responsibility of Assoc. Prof. Dr. Ezgi Pelin YILDIZ, Kafkas University, Turkey.

©2023 United World Center of Research Innovation and Publication. All rights reserved.

### Abstract

The objective of business is to produce products and services for profit. Information technology describes any technology used to create process and share information that is vital to the performance of a business. Information technology is important to the business sector as a management tool to optimize the processing of information in the bid to produce goods and services for profit. The purpose of this study was to evaluate the impact of ICT on business growth. This study was a qualitative study that aimed to discuss the impact of ICT on businesses. The study used data acquired from previous studies and the resources were discussed accordingly. The study revealed that technological infrastructure affects the culture, efficiency, and relationships of a business. It also affects the security of confidential information and trade advantages. The information revolution is sweeping through the economy. Its effects are palpable through drastic reductions in the cost of obtaining, processing, and transmitting information is changing the way we do business.

**Keywords:** Business performance; service quality; technology; technology excellence.

---

\* ADDRESS FOR CORRESPONDENCE: Mamadou Youssouf Thiama, Purdue University, Polytechnic Institute Graduate Programme, USA. E-mail address: [mthiam@purdue.edu](mailto:mthiam@purdue.edu)

## **1. Introduction**

With the advent of technology going mobile with the inclusion of faster and more efficient broadband, there is a major transition and evolution in the technological industry. Technology-based businesses are classified as businesses that employ the use of technology-related products, processes, and services, which may fall into low, medium, or high technology categories. An area of economies that have observed noticeable growth is that is focused on high technology, which is earmarked as a major source of future economic growth and an increase in employment.

IT makes use of management information systems such as computers, software, hardware, and networks to ease the function of business tasks and decision-making. IT encompasses simple tasks such as word processing and advanced tasks, such as production, scheduling, and logistics (Vrakas et al., 2021). This enables the business structure to run effectively and profitably.

The advancement of technology has increased the competitive nature of the business world over the past few decades. This involves companies deploying the use of software, computers, and the internet to upscale their local business to compete in the global marketplace. This has seen many companies evolve with this trend by automating their business process and embracing industry-related information and using it to their advantage (Mohammed, 2022). The impact of technology has enforced business flexibility to adapt its practices to technological advancement.

In the past, business owners had very crude tools available for the efficiency of business operations. In this modern age, however, embracing the newer technologies available has made business operations efficient, with both employers and employees being benefactors of several business-related benefits (Trieu et al., 2023).

The economies of scale gained through the use of information technology reduce the overall cost for business in the production of products and services. The output is an increased positive effect on the financial outlook of the business.

### **1.1. Purpose of study**

The purpose of this study was to evaluate the impact of ICT on business growth.

## **2. Materials and Methods**

This study was a qualitative study that aimed to discuss the impact of ICT on businesses. The study used data acquired from previous studies and the resources were discussed accordingly. The sources of data were referenced to adhere to ethical standards. The study poses no harm to the environment or living things.

## **3. Results**

In the use of information technology, quality assurance is required. This pertains to systematic testing that ensures a business is producing quality goods and services for its customers. Detailed quality standards would help the production of a business meet its specifications. Quality assurance is also used in marketing, customer support, accounting, and testing of products (Stupnytskyy & Hrytsay, 2020; Jemala, 2021).

An investment in information technology can make the operations of a firm more efficient, and its managerial structure, more effective. Such investments in IT can empower a business organization to:

- Significantly reduce costs
- Improve customer service quality

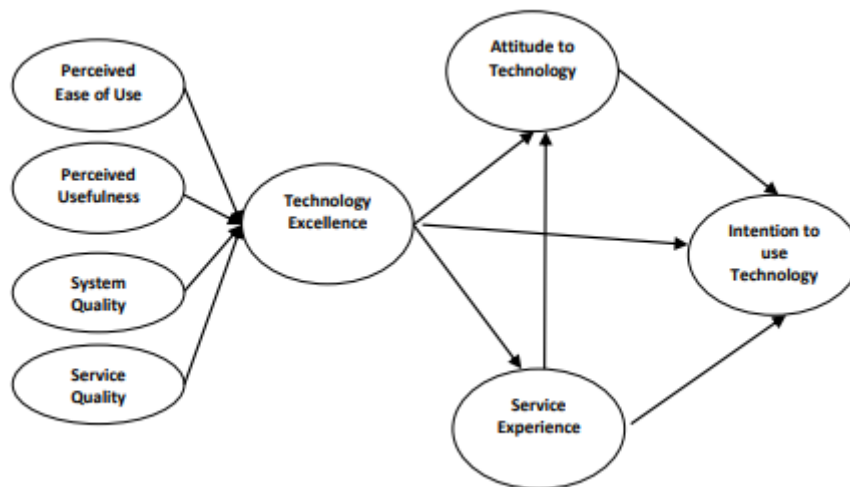
- Develop innovative products for new market
- Create new business opportunities,
- Encourage expansion into new markets
- Encourage entry into new sections of existing markets

With the increased advancement of technology in telecommunications, the use of the internet offers a very accessible and effective way to provide e-commerce services to millions of users. This involves moving away from traditional patterns to creating new models which are suitable for the requirement of the information age through the use and development of information technology (Borisova et al., 2019). Taking a cue from most service providers, the banking sector has evolved to technology to offer customer service, thereby controlling costs, attracting new customers, and meeting the expectations of customers. Banks have embraced the use of technology as a strategic tool through Internet banking, telephone banking, ATMs, etc.

Leveraging information technology and the internet has not just improved the ease of financial transactions, but has also drastically reduced the cost implications of such transactions. As a result, the major banks in the world are forecasted to move more rapidly into the business of electronic transactions to provide banking services through the Internet to their customers.

Despite the investment in the field of information technology, there is some set of people who do not make use of it despite its availability. Some of the challenges include infrastructural deficits that promote communication, cultural problems with the acceptance and use of electronic services for banking, and challenges in management systems. In the bid to increase the use of electronic banking services, promote prosperity for electronic banking and increase the competitive advantages in the global market, the following factors were implemented in the banking sector to provide the required solutions (Tiwari et al., 2023).

**Figure 1**  
*Diagram of Technology Excellence*



### 3.1. Technology Excellence

Technology excellence is defined as the degree to which technology is perceived when used as high technology. Figure 1 displays technological excellence. With this, users make use of technology that shows them more efficient, more favorable, more reliable, and more accountable ways of engagement. With technological excellence as a multidimensional structure, the four main elements comprising technological excellence are;

- Perceived ease of use,
- Service quality
- Perceived usefulness
- Quality of superior service technology

Table 1 displays the world’s internet usage as of 2018.

**Table 1**  
*World internet usage as at 2018*

Year	Asia	Europe	North America	Latin America/ Caribbean	Africa	Middle East	Oceania/ Australia
2009	764.4	425.8	259.6	186.9	86.2	58.3	21.1
2010	825.1	475.1	266.2	204.7	110.9	63.24	21.3
2011	1016.8	500.72	273.07	235.82	139.88	77.02	23.93
2012	1076.68	518.51	273.79	254.92	167.34	90	24.29
2013	1265.11	566.26	300.29	302.01	240.15	103.83	24.8
2015	1563.21	604.12	313.86	333.12	313.26	115.82	27.1
2016	1792.16	614.98	320.07	384.75	339.28	132.59	27.54
2017	1938.08	659.63	320.06	404.27	388.38	146.97	28.18
2018	2062.14	704.83	345.66	438.25	455.84	164.04	28.44

Source: Internet World Stats

### 3.2. Perceives ease of use

To study the rate of technology acceptance by users, various models have been developed and theorized. The most important however is the Technology Acceptance Model by Davis in 1989. This model serves as the classic tool to explain the behavior of computer use and other variables about the acceptance of technology. The TAM model is built on the theory of reasoned action which asserts that the theory of reasoned action is the best method to predict the behavior of an intention to use (Davis, 1989; Park, 2009; Shroff et al., 2011; Chuttur, 2009).

The bases of this model are perceived usefulness and perceived ease of use. Perceived ease of use refers to one’s belief about the idea that the use of technology does not require physical and mental effort. Thus, the lower effort required to learn the technologies, the higher users will. Perceived usefulness refers to the individual's belief that using technology would enhance work performance. In this manner, their work performance in the organizational context increases much, it is more useful, and they use more. Previous studies have shown that perceived usefulness and perceived ease of use influences on person’s attitude (positive or negative emotions due to the evaluation of a specific behavior) about the application of a technology to help make decisions on the use of this technology (Jahangir, 2008; Chen et al., 2011).

### **3.3. Service quality**

This is a distinctive element and the most powerful competitive weapon. Quality of service is defined as a universal attitude or judgment about the predominance of a service that is resulted from a comparison of customer expectations and their perception of the actual performance. Electronic service is known as a web-based service that is transmitted via the Internet to customers. High quality of service is considered the key to success in a competitive market of services. Quality of service depends on two factors: expected service and perceived service. It is stated that previous experience with a service can be effective in customer expectations while perceived service results from the customer's perception of the service. It is said that quality is a multidimensional phenomenon and its important dimensions should be understood to achieve service quality (Lulaj, 2023). Based on the idea of the gap between expectations and perceptions, have identified five main dimensions of service quality. In this way, they invented a scale to measure service quality in 1988; it is called SERVQUAL (service quality).

This model has gained wide adoption in the world and it is used in various service industries such as medical schools, hospitals, retail and department stores, universities and higher education institutions, tourism enterprises, banks, hotels, etc. It is still the most widely used instrument to measure service quality. The dimensions of this model are reliability, responsiveness, assurance, empathy, and tangible factors. These dimensions have been identified in the following. Reliability is met when services are delivered to the customer at the right time, in the same promised form, and without any mistakes. Reliability includes characteristics of competent service providing, politeness, respect for the customer, communicating effectively with customers, and the belief in the general principle that affection and confidence of customers are the best advantage and benefit the provider. Responsiveness means providing services immediately; if the service is not provided well, the ability to immediately compensate and skills can make customers' attitudes and beliefs about the quality of service positive. Empathy includes the features of customers' closeness to the provider (being kind and having good moral character), being sensitive to customers' needs, and efforts to understand them. Quality of tangibles refers to the appearance of physical facilities, staff, and available means of communication in supply of services.

### **3.4. System quality**

System quality reflects interface design, ease, fast, competence, and effectiveness of loading and storage of information the correct definition of quality is to meet and surpass the expectations of users. The quality of the system is one of the important factors in the success of technology. System quality indicates designed systems aiming to correspond to information needs and adherence to relevant standards about users. Moreover, system quality represents information processing, providing key features and key functions for learning and easy to maintain. Fulfillment of customers' expectations by system quality is performed through the attractive presentation, user-friendly interface, fun needs of users for change, and satisfaction of beneficiaries.

### **3.5. Service experience**

Experience in using technology services is another variable in the history of the subject as a predictive factor related to its use. Although there are several definitions in this regard, all agree that the customer experience must include interaction with people, processes, or systems. Experience has been defined as a common attractive action between its creator and customer; here, the customer perceives the values and maintains them in his memory. In addition, it is known as understanding experience as a learning process fulfilled over time while the customer reacts to its different

dimensions. Service experience is indeed a collection of interactions among the customer, the service, and a company or an organization that the interactions increase in the following.

The personal experience and customer concerns at different levels indicate that the evaluation depends on a comparison between customer expectations and incentives offered by the company. Found that direct experience with technology over time causes a much better evaluation of benefits and costs associated with the use of technology. Showed that technology experience influences beliefs directly and indirectly through the attitude, skills, and expertise of the users. Described successful experiences as unique, memorable, and sustainable customers over time. Emphasizes that customer experience is sensory, emotional, cognitive, behavioral, and relational manifestations; it is a relationship replacing functional values.

Therefore, attitudes forming due to direct experience are more powerful and they can predict behavior better than other attitudes. Besides, direct experience and personal interests make attitudes more accessible; in increases their impact on behavior. Moreover, previous experience grants users a sense of control over the system. When the users feel control, they are more likely to trust the system. Researchers have mentioned several factors as components of the service experience.

The components are flow, superior performance, extreme happiness, and excitement. Flow is a general feeling in people when they are involved fully with the subject. When the customers enter the sense of flow at the time of using the service, they are severely apt to be attracted by their activity because they lose the meaning of time and self. In this situation, they feel that they are only related to the assignment; thus, they disregard their thinking and perception.

Superior performance is similar to peak performance; it refers to the full use of the potential for effective behavior and achieving optimal performance. The superior performance possesses two distinctive characteristics including the "concept of self" in a specific process and "full concentration" used for studying a range of research topics related to human performance such as productivity and creativity. Extreme happiness indicates the optimal level of subjective experience; it provides moments of greatest joy that are a combination of intrinsic motivation and perceived pleasure. Such experience has very high emotions that are different from typical psychological experiments in terms of intensity, meaningfulness, and richness. Excitement is one of the most important elements of experience. Previous research has shown that excitation occurs due to the effect of an individual's emotional response to a location or position. Excitement resulting from interest and positive emotions is one of the essential aspects of experience to encourage continuing later motivation and conflict. Excitation creates positive emotions that lead to individuals' motivation to employ opportunities for discovery, thinking, learning, and receiving feedback to satisfy curiosity as a bridge to perform other tasks.

### **3.6. Attitude to technology**

Attitude to technology has been defined as a person's readiness to respond favorably and unfavorably to an object, person, event, organization, or other distinguishable aspects of the environment. In this regard, believes that this definition of attitude is suitable for attitude to technology. He defined attitude to technology as a person's readiness to respond favorably and unfavorably to technology, applications, managers, authorities of the technology service sector, or a process related to the use of the system or application and argues that attitude to technology has four main elements. (1) Thinking about technology as a means of learning; (2) validating technology as an important tool; (3) recognizing that technology is a means of entertainment; (4) Realization that technologies are associated with some stereotypes. The relationship between attitude and behavior in

the research about technology are very contradictory the same as other fields. It is believed that the level of system power and complexity makes no difference. The amount of using technology among users depends on their positive attitude.

#### **4. Conclusion**

Therefore, new technologies are welcomed and accepted by them. Besides, perceived ease of use enhances confidence and self-efficacy. It causes the formation of a positive attitude to the use of new technologies of electronic banking and accepting them. Finally, users feel safe and secure when using technology if the technology possesses sufficient merit in the exchanges and the speed of processing; it should have the speed required for solving problems and system staff to respond to the needs of clients to bring a positive attitude. It can be concluded that perceived ease of use, perceived usefulness, quality of the system, and quality of service will create positive attitudes towards technology in users as constituent elements of technology. It was also found that technology excellence has a positive and significant impact on service experience. Thus, users will have a more positive service experience if they know technology is user-friendly, with better performance, more reliable, and more responsive.

Consequently, four features of perceived ease of use, perceived usefulness, quality of the system, and technology superior service quality lead to the creation of positive service experience in technology users. Structural equation modeling results show that technology excellence has a positive and significant impact on the intention to use technology services. In explanation of this finding, one can state that technology excellence is users' perception of the technology usefulness, efficiency, and performance of technology, ease of learning, and ease of using technology. Speed of responsiveness to requests, performing safe interactions, and providing high-quality and acceptable services will lead to the intention to use technology services. Structural equation modeling results also represent that attitude to technology has a positive significant influence on intention to use technology services. In this regard, it is reasonable to assert that persons who like using technology, know using technology entertaining, are interested in using technology, and see technology applications as attractive are more likely to use technology services.

Thus, creating and keeping a positive attitude toward technology are the main elements for progress and success in using these tools. In addition, studies have shown that having negative attitudes causes one's far distance from technology and lack of success in the use of technology. Attitude to technology prepares a person for favorable or unfavorable responses to technology devices. Research also shows that service experience has a positive and significant impact on attitude to technology. This finding is in line with the results. Hence, banks can create a positive attitude if they bring an experience of high-quality services, experience of the perfect time of service, experience of staff's commitment necessary to meet the needs of customers, experience of skills needed to solve customer problems, and experience of responsibility for incomplete services.

Accordingly, one's direct experience with technology over time causes a better evaluation of the advantages and costs of technology; it creates a positive intention to use technology services. Results indicate that service experience has a significant positive impact on the intention to use technology services. This finding is in line with the results as well. In this manner, the purchase experience increases users' emotions about control over the system; it is hidden for users as long as they have no objective experience. The users trust more on the system if they find that they can control the system; thus, they will have more intention to use technology services. Experience of using the service makes a person familiar with the convenience, ease of use, and access to the electronic environment easy. In

addition, people use their own experiences to assess the value of the goods and services and they decide to use it again based on their experience. State that experience of a person reduces the anxiety of an unknown environment and leads him to use technology services.

The results indicate that attitude to technology as well as service experience has a mediating role in relationships between technology excellence and the intention to use technology services. Accordingly, technology excellence creates an intention to use technology services by creating a positive attitude towards technology and service experience. In general, one can conclude that the results emphasize on advantages and benefits of information technologies in organizations. Variables of technology excellence, including perceived usefulness and ease, system quality, and quality of service, cause the fact that users see technology as more user-friendly, better performing, more reliable, and more responsive. In this way, they will have a better service experience and a more favorable attitude to technology. Therefore, they will have more intention to use technology services. This research considers only samples from customers and users of technology services in Tehran; hence, generalizing it to other cities will encounter some limitations. Besides, the results are gathered based on self-reports. It is suggested that other researchers employ qualitative and combined methods to identify effective factors in the use of technology services.

## References

- Borisova, V. V., Demkina, O. V., Mikhailova, A. V., & Zieliński, R. (2019). The enterprise management system: evaluating the use of information technology and information systems. *Polish Journal of Management Studies*, 20. <https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-972744ae-f581-4eb8-b332-41c4ca2cfc27>
- Chen, S. C., Shing-Han, L., & Chien-Yi, L. (2011). Recent related research in technology acceptance model: A literature review. *Australian journal of business and management research*, 1(9), 124. [https://www.ajbmr.com/articlepdf/AJBMR\\_19\\_04i1n9a14.pdf](https://www.ajbmr.com/articlepdf/AJBMR_19_04i1n9a14.pdf)
- Chuttur, M. (2009). Overview of the technology acceptance model: Origins, developments, and future directions. [https://aisel.aisnet.org/sprouts\\_all/290/?utm](https://aisel.aisnet.org/sprouts_all/290/?utm)
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340. <https://www.jstor.org/stable/249008>
- Jahangir, N., & Begum, N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African journal of business management*, 2(2), 32. <https://academicjournals.org/journal/AJBM/article-full-text-pdf/1FD799E16398.pdf>
- Jemala, M. (2021). Long-term research on technology innovation in the form of new technology patents. *International Journal of Innovation Studies*, 5(4), 148-160. <https://www.sciencedirect.com/science/article/pii/S209624872100031X>
- Lulaj, E. (2023). A sustainable business profit through customers and its impacts on three key business domains: technology, innovation, and service (TIS). *Business, Management and Economics Engineering*, 21(1), 19-47. <https://journals.vilniustech.lt/index.php/BMEE/article/view/18618>
- Mohammed, K. A. F. A. J. I. (2022). Access of technology as a mediator on access to finance to drive business innovation in small to medium-sized enterprises. *Studies in Business and Economics*, 17(1), 91-111. <https://sciendo.com/article/10.2478/sbe-2022-0007>



- Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students. Behavioral Intention to Use e-Learning. *Educational Technology & Society* 12(3). 150-162.
- Shroff, R. H., Deneen, C. C., & Ng, E. M. (2011). Analysis of the technology acceptance model in examining students' behavioural intention to use an e-portfolio system. *Australasian Journal of Educational Technology*, 27(4). <https://ajet.org.au/index.php/AJET/article/view/940>
- Stupnytskyy, V., & Hrytsay, I. (2020). Comprehensive analysis of the product's operational properties formation considering machining technology. *Archive of mechanical engineering*, 67(2), 149-167. <https://bibliotekanauki.pl/articles/139963.pdf>
- Tiwari, A. K., Marak, Z. R., Paul, J., & Deshpande, A. P. (2023). Determinants of electronic invoicing technology adoption: Toward managing business information system transformation. *Journal of Innovation & Knowledge*, 8(3), 100366. <https://www.sciencedirect.com/science/article/pii/S2444569X23000628>
- Trieu, H. D., Van Nguyen, P., Nguyen, T. T., Vu, H. M., & Tran, K. (2023). Information technology capabilities and organizational ambidexterity facilitating organizational resilience and firm performance of SMEs. *Asia Pacific Management Review*. <https://www.sciencedirect.com/science/article/pii/S1029313223000258>
- Vrakas, G., Chan, C., & Thai, V. V. (2021). The effects of evolving port technology and process optimisation on operational performance: The case study of an Australian container terminal operator. *The Asian Journal of Shipping and Logistics*, 37(4), 281-290. <https://www.sciencedirect.com/science/article/pii/S2092521220300225>