

E-Commerce Business Under Pressure To Grow

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Abstract

There is a real need to prevent churn in e-commerce business by better understanding its customers, and affordances of e-commerce live streaming. We are witnessing an increasing role of e-commerce platforms in facilitating sustainable consumption by bridging the existing attitude-behavior gap, being interesting to see the evolution from SHIFT to SEER. There is also a growing role of blockchain in the development of e-commerce and consumers' willingness to adopt and use this disruptive technology, going beyond common blockchain myths. Businesses are under pressure to master e-commerce conversion rate, better understanding how blockchain is leveraged by mobile apps, and how to take advantage of blockchain in the metaverse economy.

Keywords: E-commerce business, Churn prevention, E-commerce platforms, Sustainable consumption, Blockchain, Mobile apps, Metaverse

JEL Classification: D83; L81; L86; M15; M31; O32; O33

Preventing churn in e-commerce business by better understanding its customers, and affordances of e-commerce live streaming

According to Shobana et al. (2023), in order to sustain a Business-to-Consumer (B2C) e-commerce business (as confirmed by multiple marketing studies) the greatest option is retaining existing consumers, which is nearly five times more inexpensive compared to the rising cost of acquiring new customers, also taking into account that only after a long time and many transactions e-commerce business can consider a new customer as valuable. Within the context of the increased competition (determined by competitors having advanced penetration strategies) it is recommendable to use temporary retention measures so as to prevent churn, based on better

understanding customers, by analyzing their behavior, and paying attention to potential client churn opportunities, via churn prediction being expected the likelihood of attrition.

A very interesting to study customer behavior is for instance in e-commerce live streaming. As demonstrated by (Lu et al., 2023), there is still insufficient literature on the affordances of e-commerce live streaming, understanding the affordance as defined by Volkoff and Strong (2013) based on the core principles of critical realism. Allow us to provide here some explanatory information:

- In 1966 J.J. Gibson (who developed a theory of affordances in 1977 and 1979) pledged for understanding perception in terms of perceptual systems (rather than channels of sensation), coining the term affordance by considering both the environment, and the observer who finds the information for perception primarily in this environment (Wells, 2002);
- There was a continuous debate on the ontology of affordances (Parchoma, 2014) within the context in which the research on the technological affordances was hindered by the ontological debates on affordances.

Coming back to Lu et al., who explored the affordances of e-commerce live streaming (where products are endorsed by sellers based on the most suitable streamers) from affective affordances (in order to promote consumers' goodwill toward the streamer, making them feel as in the real shopping scene by both real time guidance shopping, and fully interacting, enjoying immersive experiences) and cognitive affordances (in order to assist consumers in their purchasing decisions, improving purchases' quality based on direct and timely personalized services), they tried to cover the still unclear connections' formation mechanism (as social network of close and pervasive interpersonal relationship) between streamers and consumers, based on affordance theory. Their research findings showed that both affective and cognitive affordances have positive impacts on buyers' perception of a swiftly formed interpersonal relationship with sellers, these swift connections being an antecedent of consumers' both purchase intention, and gift-giving intention.

The role of e-commerce platforms in facilitating sustainable consumption by bridging the existing attitude-behavior gap: From SHIFT to SEER

Purcarea et al. (2022) brought to attention a significant linkage between: the fact that in considering the sustainability the main consumers' motivation (31%) is a low enough product price to have enough money to buy it (being no single sustainable consumer, according to the EY Future Consumer Index 2021 insisting on "affordability first"); despite consumers' higher levels of purchasing decisions based on brand strength, mission, and values there is a disconnection between perception and reality caused by various aspects (according to Allison+Partners' research study of more than 1000 technology marketing and PR decision-makers); the well-

documented discrepancy (considering the intense analyzed attitude-behavior gap) between consumers' attitudes towards sustainable consumption and their behavior in purchasing sustainable products; sustainable consumption can be encouraged by using the so-called SHIFT framework; how sustainability has caused doubts about our consumption patterns (according to Islam, 2017).

New research by Islam et al. (2023), offered preliminary evidence with regard to how by redesigning e-commerce platforms can be facilitated sustainable consumption in context of online shopping, bridging the existing attitude-behavior gap concerning environmental sustainability. They introduced for this purpose a concept design named Sustainable E-commerce with Environmental-impact Rating (SEER) to address three key factors (inconvenience, lack of knowledge, and lack of trust) responsible for the above-mentioned gap observed in sustainable consumption literature. The SEER prototype confirmed significant ways of working with environmental impacts, and the system proposed is very useful not only to directly informing about different purchase decisions, but also to both detect, and capture ecofriendly purchases, offering policy makers the necessary basis the possibility to encourage sustainable consumption by providing additional incentives or rewards.

The role of blockchain in the development of e-commerce and consumers' willingness to adopt and use this disruptive technology, going beyond common blockchain myths

As shown by McKinsey (2022), the secure sharing of information is enabled by the blockchain technology, the three central attributes of blockchain (it is cryptographically secure, it happens fully online, and it is a database shared across a public or private network) being considerable. Anything that has value it is possible to be exchanged based on this type of distributed database or ledger (as account book recording transactions), updates being made with the help of nodes incentivized with digital tokens or currency, and new opportunities for businesses can be created on this basis (not only by decreasing risk and reducing compliance costs, as well as by creating more cost-efficient transactions, but also by driving automated and secure contract fulfillment, and increasing network transparency).

It is worth remembering that five years ago McKinsey's representatives (Carson et al., 2018) brought to our attention the need to pay attention to the fact that there are misconceptions about the advantages and limitations of the technology created by common blockchain myths, as shown in figure below.

	Myth	Reality
1 	Blockchain is Bitcoin	- Bitcoin is just one cryptocurrency application of blockchain - Blockchain technology can be used and configured for many other applications
2 	Blockchain is better than traditional databases	- Blockchain's advantages come with significant technical trade-offs that mean traditional databases often still perform better - Blockchain is particularly valuable in low-trust environments where participants can't trade directly or lack an intermediary
3 	Blockchain is immutable or tamper-proof	- Blockchain data structure is append only, so data can't be removed - Blockchain could be tampered with if >50% of the network-computing power is controlled and all previous transactions are rewritten—which is largely impractical
4 	Blockchain is 100% secure	- Blockchain uses immutable data structures, such as protected cryptography - Overall blockchain system security depends on the adjacent applications—which have been attacked and breached
5 	Blockchain is a "truth machine"	- Blockchain can verify all transactions and data entirely contained on and native to blockchain (eg, Bitcoin) - Blockchain cannot assess whether an external input is accurate or "truthful"—this applies to all off-chain assets and data digitally represented on blockchain

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Figure no. 1: Five common blockchain myths create misconceptions about the advantages and limitations of the technology

Source: Carson, B., Romanelli, G., Walsh, P. and Zhumaev, A., 2018. *Blockchain beyond the hype: What is the strategic business value?* [pdf] McKinsey & Company, Digital McKinsey, June 2018, p. 3 (Work cited)

Four years later, the by CB Insights acquired (in 2020) software company tracking the global blockchain economy, Blockdata (2022), underlined the increased enterprise adoption of blockchain solutions by the top 100 companies based on market cap, showing that 77 of the top 100 public companies are using blockchain technology, these companies experiencing the benefits of decentralized technologies. Among companies using multiple distributed ledger technology (DLT) solutions are, for instance, Microsoft, The Home Depot, and the Ali Baba Group. And as blockchain solutions are used by enterprises to make their business operations

more efficient Blockdata compared some of the most popular blockchain solutions, as shown in figure below.

ENTERPRISE INFRASTRUCTURES COMPARED

BLOCKDATA OCTOBER 2022

										
COMPANY	ETHEREUM	HYPERLEDGER FABRIC	CORDA	QUORUM	AXCORE	ANTCHAIN	MULTICHAIN	SYMBIONT ASSEMBLY	XDC NETWORK	HEDERA HASHGRAPH
GOVERNANCE	ETHEREUM FOUNDATION	LINUX FOUNDATION	R3	CONSENSYS	AXONI/SCHVEY INC.	ANT GROUP	COIN SCIENCES	SYMBIONT	XINFIN	HEDERA GOVERNING COUNCIL
FOUNDING DATE	2014	2015	2014	2017	2013	2015	2014	2015	2019	2018
HQ	SWITZERLAND	UNITED STATES	UNITED STATES	UNITED STATES	UNITED STATES	CHINA	UNITED KINGDOM	UNITED STATES	SINGAPORE	UNITED STATES
TYPE	BLOCKCHAIN	DLT/ FRAMEWORK	DLT/ FRAMEWORK	DLT/ FRAMEWORK	DLT/ FRAMEWORK	DLT/ FRAMEWORK	DLT/ FRAMEWORK	DLT/ FRAMEWORK	BLOCKCHAIN	DAC
ACCESS	PERMISSIONLESS	PERMISSIONED	PERMISSIONED	PERMISSIONED	PERMISSIONED	PERMISSIONED	PERMISSIONED	PERMISSIONED	PUBLIC, PERMISSIONED	PUBLIC, PERMISSIONED
CONSENSUS	PROOF-OF-STAKE	KAFKA, RAFT, SOLO	PLUGGABLE FRAMEWORK	RAFT, ISTANBUL, BFT	ETH-BASED	PBFT/ HONEYBADGER BFT	ROUND-ROBIN	BYZANTINE FAULT TOLERANCE	XDFOS	ABFT
SC LANGUAGE	SOLIDITY	GO, JAVA, NODEJS	KOTLIN, JAVA	JAVA, KOTLIN	AXLANG	SOLIDITY, C++, JAVA	JAVASCRIPT	SYMPL	SOLIDITY	SOLIDITY
TPS	12	2,000	170	100+	NA	NA	>1,000	7,000	2,000	10,000+
FOCUS	CROSS INDUSTRY	CROSS INDUSTRY	FINANCIAL/ CROSS INDUSTRY	CROSS INDUSTRY	CAPITAL MARKETS/ FINANCIAL	CROSS INDUSTRY	CROSS INDUSTRY	CROSS INDUSTRY	TRADE FINANCE/ PAYMENTS	CROSS INDUSTRY
EMPLOYEES	~475	140	486	~537	~86		20	100	41	116
CURRENCY	\$ETH	NA	NA	NA	NA	NA	NA	NA	\$XDC	\$HBAR

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Figure no. 2: Enterprise infrastructures compared

Source: Blockdata, 2022. *The State of Enterprise Blockchain in 2022, General*, Nov 14th, 2022 (Work cited)

According to Esfahbodi et al. (2022), there is no doubt about the importance of e-commerce in today's world economy, a pivotal role in promoting the growth of e-commerce being played by including the advancement of the disruptive technology of blockchain. Within this general context, based on the technology acceptance (TAM) model they focused on the important factors of blockchain technology adoption in e-commerce, and investigated the intention of individual users to adopt blockchain. They took into account the limited evidence on these above-mentioned factors, trying to identify these determinants, while starting from an empirically assessment (based on a developed conceptual framework) in order to present the relationships between blockchain's core characteristics and consumers' adoption intention. Research findings revealed a positive effect on perceived usefulness of cost saving and traceability (as well as minor associations between data privacy security and perceived

usefulness), and the proposed model confirmed the strong impact of the perceived usefulness on consumers' adoption intention.

**Instead of conclusions: *e-commerce conversion rate, blockchain leveraged by
mobile apps, and taking advantage of blockchain in
the metaverse economy***

According to the UK behavioral marketing company SaleCycle (2023), an essential metric in measuring businesses' effectiveness and success of their online activities is the so-called conversion rate, which in e-commerce business means the conversion rate of orders on a store (e-commerce conversion rate = orders / visits to the website). It is expected that a major disruptor in the coming years will be m-commerce (already accounting for 75% of online users), one-click checkout being already introduced to their sites by many retailers, and well-known social media sites already introduced shortcuts for shoppers to buy products (without having to leave the platforms).

On the other hand, as underlined by Sharma and Bhargav (2023), blockchain can be leveraged by mobile apps so as this technology to offer secure transactions, identity verification, and data integrity. And that within the context of the increasing impact of mobile apps on customer engagement and overall customer experience. Of course, without forgetting other aspects such as that at Vibes (Hinman, 2023) so-called engagement gap between low-reach, high-engagement mobile app marketing, and high-reach, low-engagement email marketing.

And as shown by BGC's representatives (Lellouche Tordjman et al., 2023), in order to broaden the current metaverse e-commerce funnel (on the path to embrace the metaverse as a new end-to-end channel) companies can – by taking advantage of blockchain (or other decentralized transaction technologies) – achieve a trust revolution that both ensures the safety of metaverse transactions, and guarantees their authenticity.

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