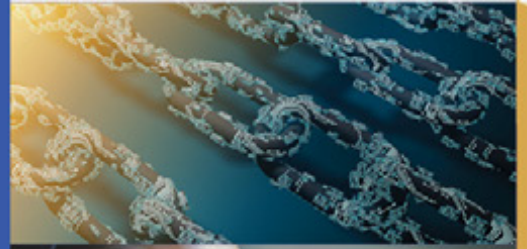

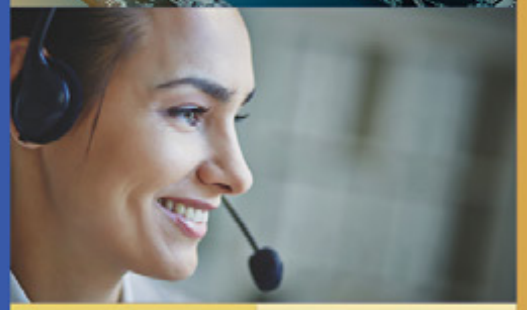

CX BLOCKCHAIN
Institute

CX Blockchain
GLOBAL MARKET INTELLIGENCE REPORT

2019
2020

2019 – 2020 Global CX Blockchain Market Intelligence Report

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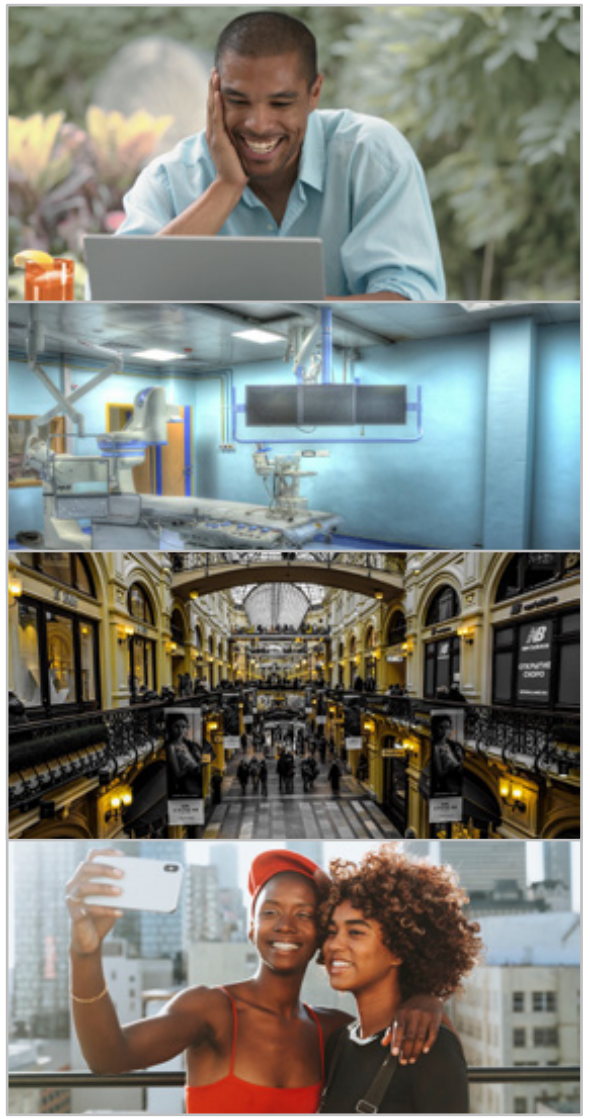

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Welcome to the Global CX Blockchain Market Intelligence Report.

We're delighted to reveal the findings of this survey, which takes an in-depth look at a massively disruptive technology trend that is rapidly rising in strategic significance due to its myriad applications and potential impact on business and customer experience (CX) operations.

Global knowledge leaders and industry pundits have indicated that Blockchain potentially has the same transformative power as the internet and other world-changing innovations.

Executives in key vertical sectors increasingly ask challenging, granular and pragmatic questions about blockchain technology, which demonstrates the growing awareness around this prolific technological evolution.

And rightly so. Blockchain technology is reshaping the way data is stored, verified, distributed and accounted for to improve efficiency and effectiveness. It is also helping to cut costs and increase revenue by creating new products, services and business models.

To contextualize this trend within the global contact center market, The CX Blockchain Institute, the worldwide authority dedicated to fulfilling blockchain in the customer care industry, commissioned Knowledge Executive to conduct this comprehensive market survey.

We approached a statistically significant number of business process outsourcers and organizations with in-house contact centers that operate across a broad range of business verticals to gain a holistic understanding of the market dynamics. It was clear that blockchain is not a “magic wand” or “silver bullet”, but it does have specific real-world applications in various vertical industries.

This report reflects the diverse viewpoints, opinions and predictions of the market, with insightful and relevant analyses provided to accurately shape expectations around the market's understanding of blockchain, and reveal current and future adoption, implementation and usage trends in various business verticals and contact center environments.

We would like to thank all the respondents who participated in this survey for their enthusiasm and willingness to share their viewpoints and statistics, including the trends they foresee impacting on their future business activities.

We are sure that you, the reader, will find the quantitative statistics and supporting qualitative commentaries useful when reviewing how you too can embrace blockchain technology in your business, particularly as the role, impact and importance of this technology trend grows within the global contact center and CX market.

Mark Angus
CEO, Researcher & Strategist
Knowledge Executive
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About The CX Blockchain Institute

The CX Blockchain Institute is the worldwide authority focused on fulfilling blockchain for the CX industry. With operational assessments, communication centers of excellence, industry awareness programs and training academies, we simplify blockchain implementations, create well-defined competitive barriers with our certification process, and accelerate path to revenue.

About Knowledge Executive

Knowledge Executive empowers and enables global Knowledge Leaders. We co-create and publish business, trade and investment research, market intelligence and insights for executives of today's Experience Economy. This includes commissioned and syndicated research reports and qualitative/quantitative surveys covering business process outsourcing and services (BPO, BPS), IT-enabled services (ITES), employee experience (EX) and customer experience (CX).

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Knowledge Executive was commissioned to produce this research report by The CX Blockchain Institute.

A total of 120 interviews were conducted via outbound calls and telephonic interviews during August 2019 with C-level executives, including CIOs (3%), and Contact Center (3%), Customer Service (3%) and ICT/technology (23%) directors. Interviews were also conducted with department heads across Customer Care/Relations (15%), IT/Technology (15%), Operations (13%) and Customer Experience Management (5%).

These respondents represent organizations in Australia, Canada, the UK and the US across eight key vertical markets, including banking, insurance, healthcare and medical, public sector/government, retail and e-commerce, supply chain and logistics, telecommunications and business process outsourcing (BPO).

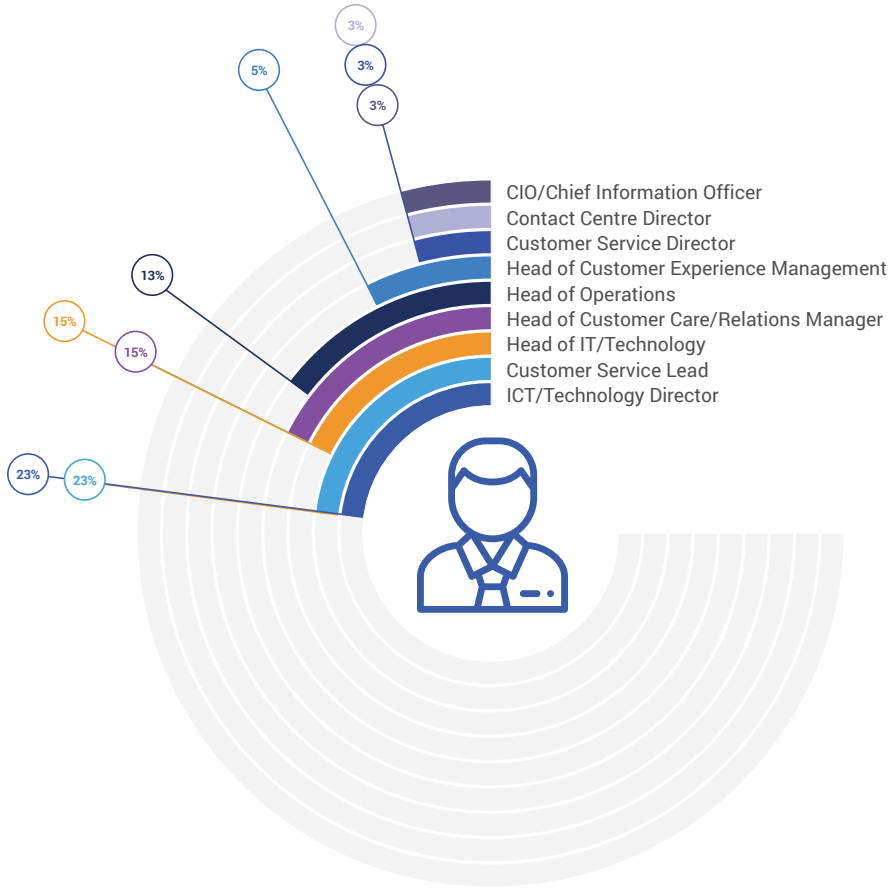
The majority (60%) are responsible for organizations or contact centers with more than 10,000 employees and generate more than $5 billion in annual revenue (50%), while 28% of respondents represent organizations that generate between $1- $5 billion in annual revenue.

The analysis of the quantitative data was structured using validated scoring matrices, while the text, graphs, icons and qualitative data contained in this report were created to support the key findings.

The respondents were assured that their personal details, and the information they shared within the questionnaires would be kept confidential.

Respondents

What level do you operate at within your organization?



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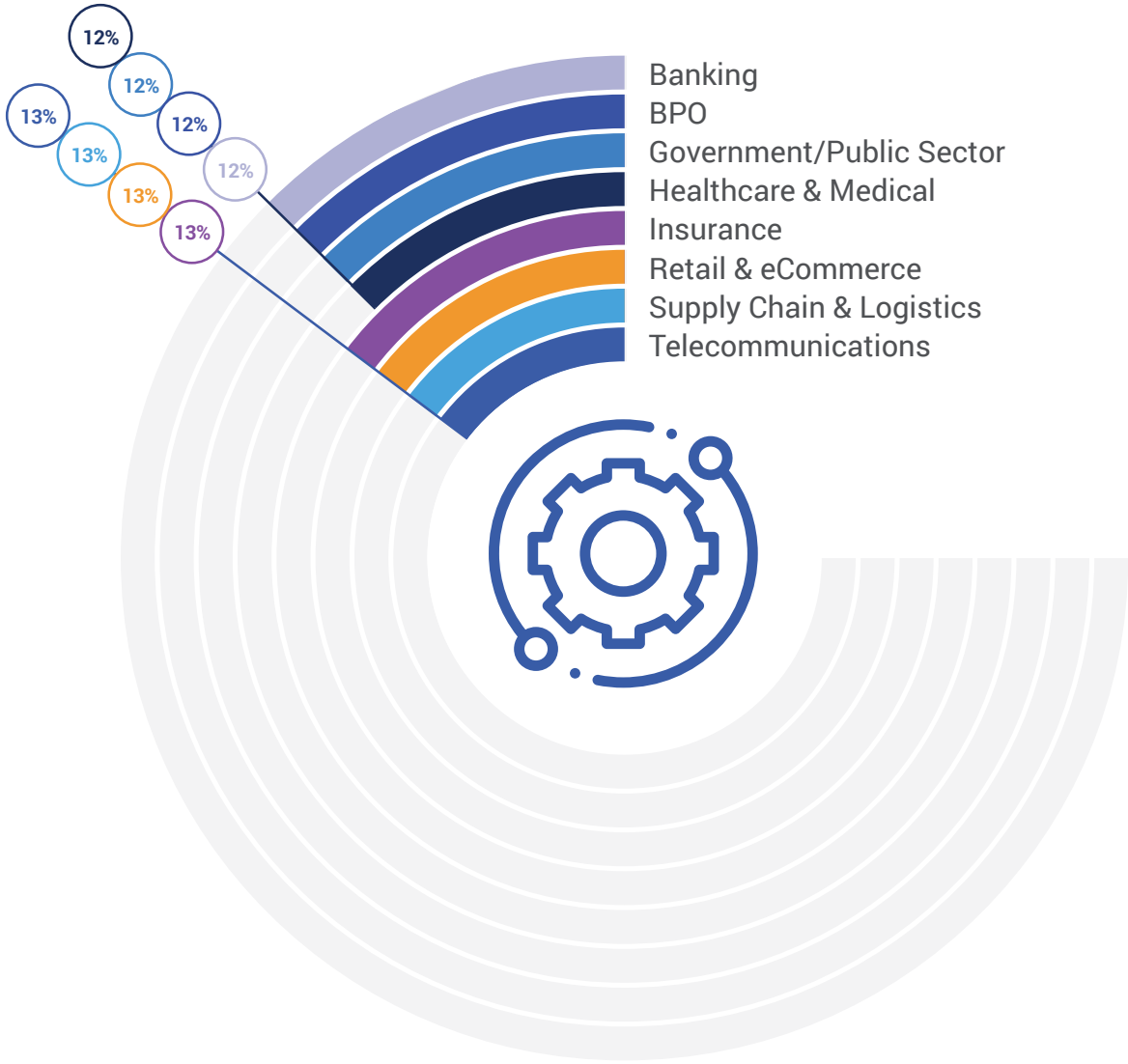
Sector split
What industry best describes your organization?

The survey methodology included an even split of interviews with executives across eight key vertical markets, including banking, insurance, healthcare and medical, public sector/government, retail and e-commerce, supply chain and logistics, telecommunications and business process outsourcing (BPO).



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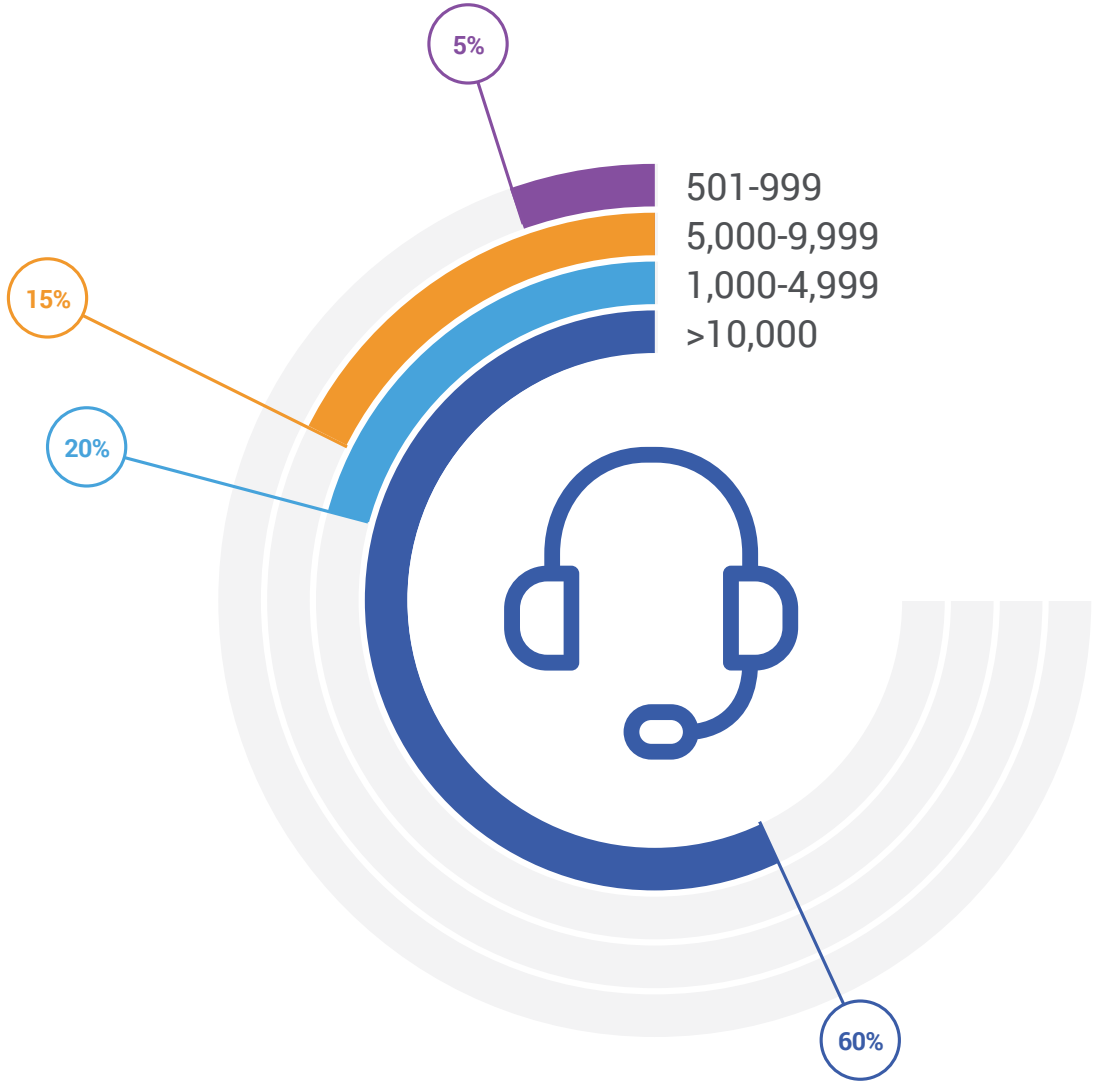
Agents

How many total agents, or seats, do you have in your call/contact center operations(s)?

The majority of respondents (60%) are responsible for organizations or contact centers with more than 10,000 employees.



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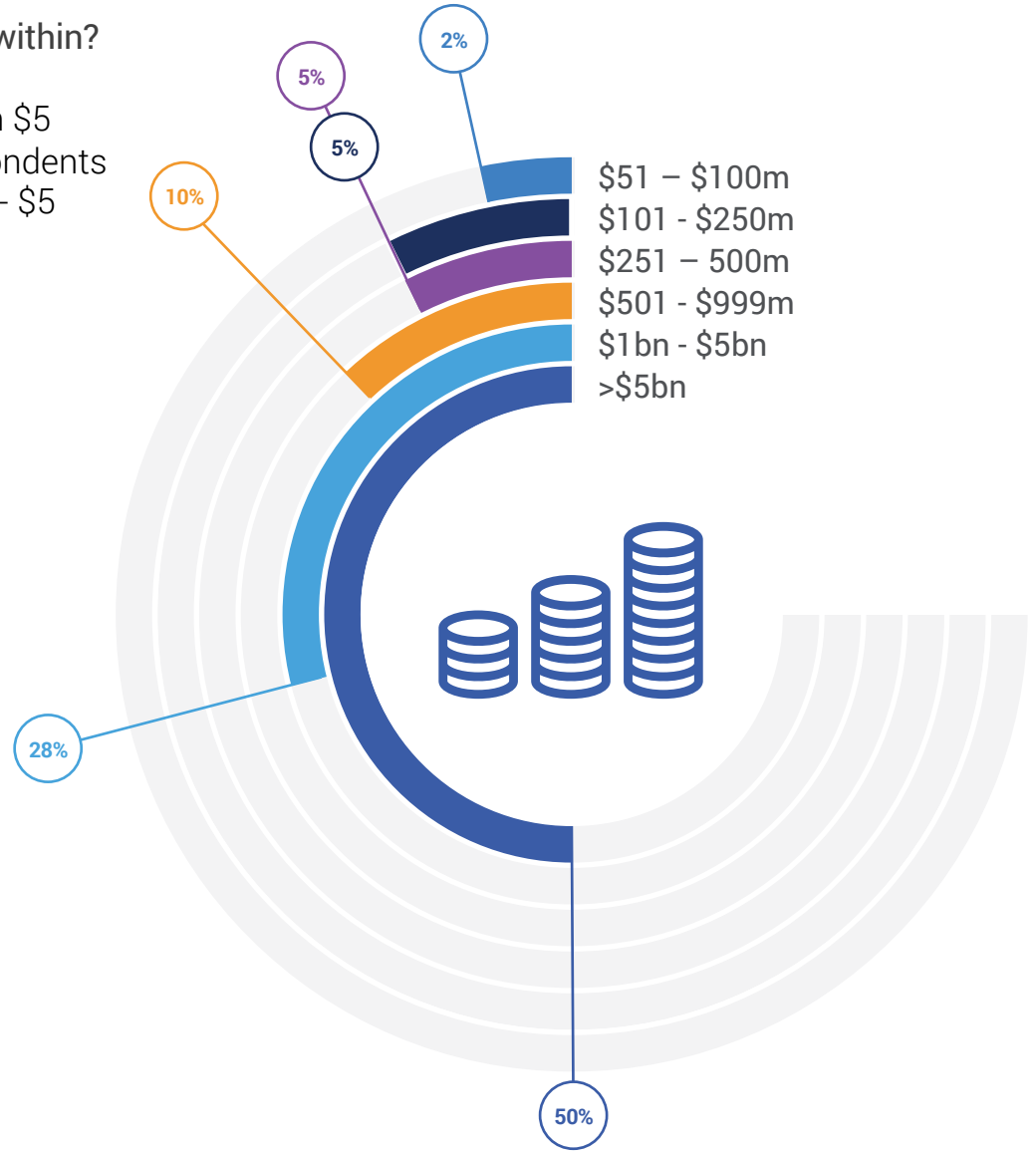
Revenue

What revenue bracket does your organization fall within?

The organizations interviewed generate more than $5 billion in annual revenue (50%), while 28% of respondents represent organizations that generate between $1- $5 billion in annual revenue.



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Countries
Where is your business headquartered?

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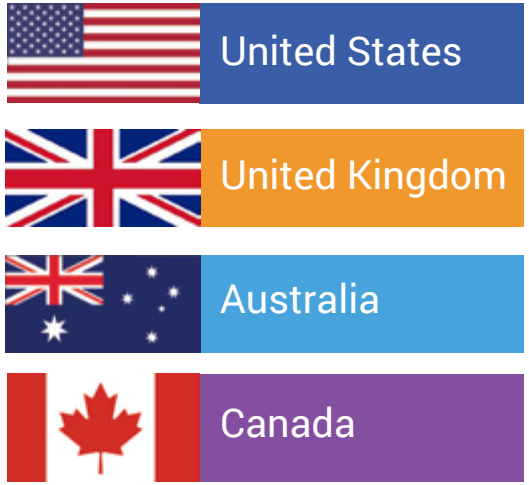

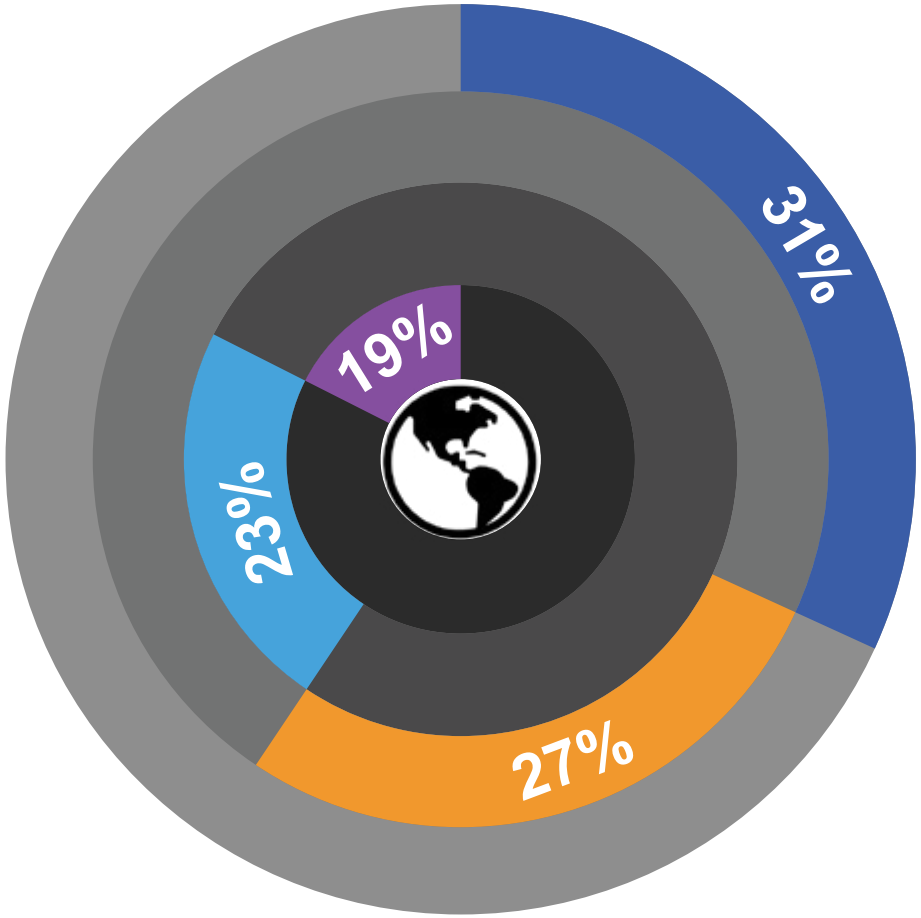

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The 2019 – 2020 Global CX Blockchain Market Intelligence Report uncovers a prolific technological trend that is rapidly sweeping across every business sector. It appears that blockchain technology adoption is rapidly gaining momentum with the potential to surpass other industry 4.0 technologies in relevance and importance within the modern business context.

The business chain reaction

The report finds businesses in every vertical at different stages of analysis and adoption. While clear patterns emerge with regard to the tasks and applications blockchain seeks to address in the business context, already there are innovative early adopters moving to a more advanced phase of blockchain maturity in their business, specifically within the financial services sector. As the role and application within specific businesses becomes clearer and more executives understand the value that blockchain can deliver, adoption is set to rapidly accelerate.

The contact center interaction

Customer-centric-experience across various engagement models and services - and the ability to facilitate true omnichannel capabilities to enhance agent efficiency and improve outcomes - emerge as the dominant drivers for blockchain adoption in the contact center environment. Survey findings also suggest that most operators are currently assessing blockchain's potential impact in their business or are already deploying blockchain technology in their business in some form or manner. Some early adopters also show signs that they're moving to the next phase in the blockchain adoption curve and are looking to combine it with other intelligent technologies to unlock new capabilities.

The CX interconnection

Based on the survey findings, blockchain's application in CX enablement is multifaceted. The distributed ledger technology (DLT) is uniquely able to address challenges such as data and channel fragmentation. Access to verified, accurate consumer data also helps to craft a unified view of the customer that can create meaningful and relevant engagements throughout the customer lifecycle. Access and control of this information will emerge as the next frontier in digital transformation as consumers seek greater control of their digital identifies, with the ability to authorize access to their personal information thanks to blockchain's functionality. Beyond data and identity management, DLT will also help contact centers transcend the communication silos that exist within operations that have yet to embrace true cloud-enabled omnichannel capabilities.

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Blockchain + CX in banking

Respondents view blockchain as a transformative technology that can effectively address myriad challenges within the banking and broader financial services sector. This depth of understanding and willingness to embrace and implement the technology is clearly evident from the survey findings. Already, diverse blockchain applications have emerged within the sector, creating a vibrant and exciting showcase of the potential benefits that the technology can offer other sectors and businesses. The sector is also poised to take an early-adopter approach, driving blockchain innovation across the business spectrum.

Blockchain + CX in government

Blockchain will play a pivotal role in e-government services enablement. Survey findings reveal that streamlining the voting process across the value chain is being considered, while other applications currently focus on enhancing cybersecurity amid rising global risks to protect sensitive government information and citizen data. A drive towards truly citizen-centric governments through reduced administrative requirements, greater efficiency and enhanced front-line engagement capabilities are other focus areas for public sector organizations and government departments.

Blockchain + CX in healthcare

Healthcare providers are looking to blockchain technology to help them address the sector's inherent complexity. Legacy issues around data management, regulatory compliance and systems integration are the traditional bugbears the sector faces, which reduces operational efficiency and negatively impacts CX and patient satisfaction. Beyond streamlining processes and admin-intensive tasks, exciting blockchain applications lie on the horizon as healthcare providers use blockchain technology to manage the Internet of Healthy Things (IoHT) and enable AI-powered diagnostic capabilities to improve patient outcomes.

Blockchain + CX in insurance

If data is the insurance industry's lifeblood, then blockchain technology can be the plumbing that elevates the industry's circulatory system. Ubiquitous access to accurate, verified data from multiple sources will create a level of transparency that could transform the insurance sector, revolutionizing every step in the value chain, from risk-rating and underwriting to assessments and claims processing.

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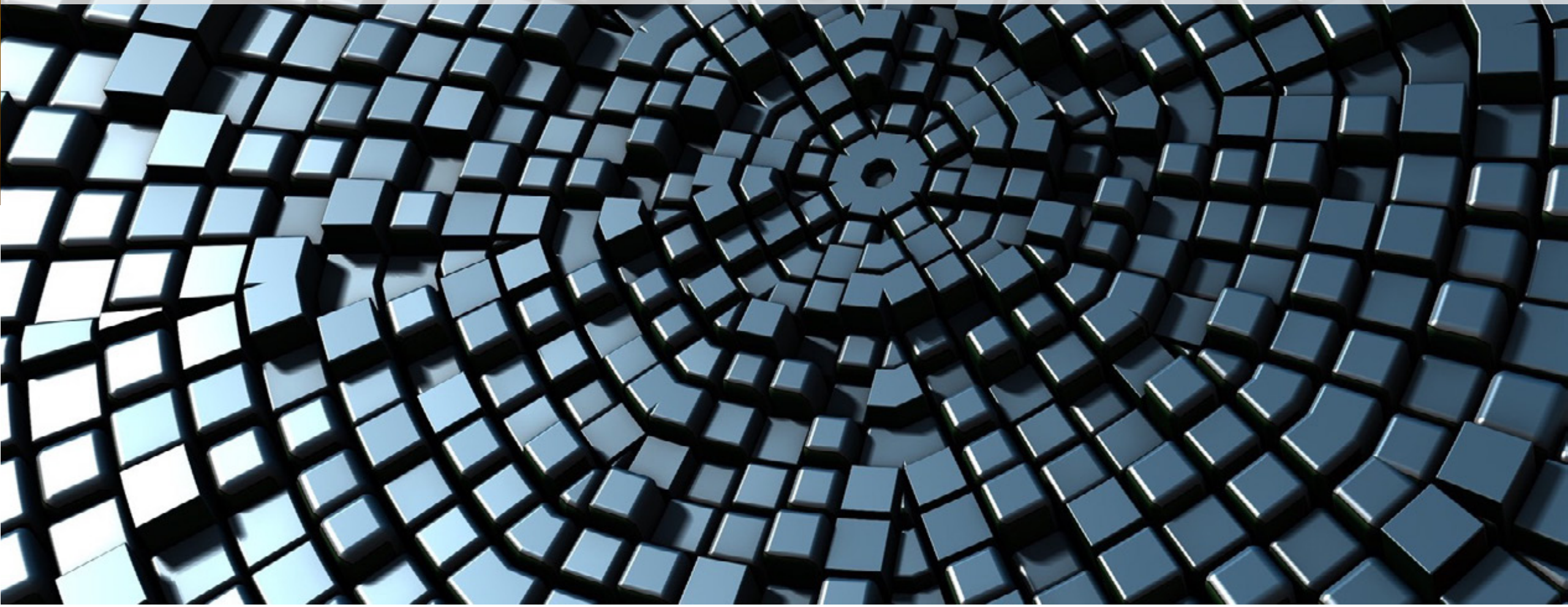
Blockchain + CX in retail
Enhancing CX and customer satisfaction through real-time data access sits at the heart of the retail sector's blockchain transformation plans. Whether in the contact center, on e-commerce platforms or in brick-and-mortar stores, blockchain solutions will increasingly help retailers meet shifting consumers expectations and maintain relevance in a highly dynamic environment.

Blockchain + CX in supply chain and logistics
Blockchain's fundamental value is its ability to vastly improve any supply chain. Unsurprisingly, the supply chain and logistics sector is eagerly embracing the technology to tear down geographic and system silos to streamline operations and ease the administrative burden. Blockchain is generally viewed as the panacea to the inherent complexity and fragmentation that has characterized the sector for decades.

Blockchain + CX in telecoms
Few industries currently experience change at the pace and on the same scale as the telecoms sector. Numerous factors are converging to reshape the industry's complexion, which is witnessed in the diverse blockchain applications that emerged in the survey findings. Ultimately, service providers are turning to the technology as a means to shore up revenue streams, entrench customer loyalty, create new business opportunities and improve security and capacity in the face of an explosion in data and devices.

Blockchain defined



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Broadly speaking, blockchain is a distributed database existing on multiple computers at the same time. This decentralized network is constantly growing as new sets of recordings, or 'blocks', are added and linked together to form a chain. All information is constantly reconciled into the distributed database, which is stored in multiple locations and updated instantly.

To better illustrate this concept, consider this blockchain analogy: during a playground football game, every player knows the score at any one time, and no one can change the score without convincing every other playing that there's a very good reason for doing so.

In a similar way, each node in a blockchain-based peer-to-peer (P2P) network has an identical copy of the network's event ledger. As such, the records are public and verifiable, which means the ledger is undeniable.

So, both playground football and blockchain achieve a situation where you have multiple participants who have an agreed upon historical record of events - and that record cannot be tampered with.

Each block contains a timestamp and a link to the previous block, which forms a chain with no central point of failure. Once validated, data is permanently recorded to the blockchain's distributed network and these blocks are combined in chains that cannot be altered in any way since the information exists simultaneously in multiple places. This creates the immutable ledger that enables secure, transparent transactions.

It is this structure that ensures all transactions are self-executing and immutable and allows data to be referenced at any time by anyone who has permission to access the information. The technology can, therefore, improve security, streamline onerous administrative processes, enhance governance and regulatory compliance and augment various business processes – particularly those that require a middle person – to boost operational efficiencies and reduce cost and complexity.

Global blockchain trends

Global blockchain trends

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Blockchain technology first emerged in 2008 but its adoption and application remained slow until it was used to create Bitcoin and other cryptocurrencies. While this application created some confusion in the market as the two technologies are often conflated, decision-makers are beginning to understand that blockchain has numerous business applications which has caused adoption and usage to accelerate.

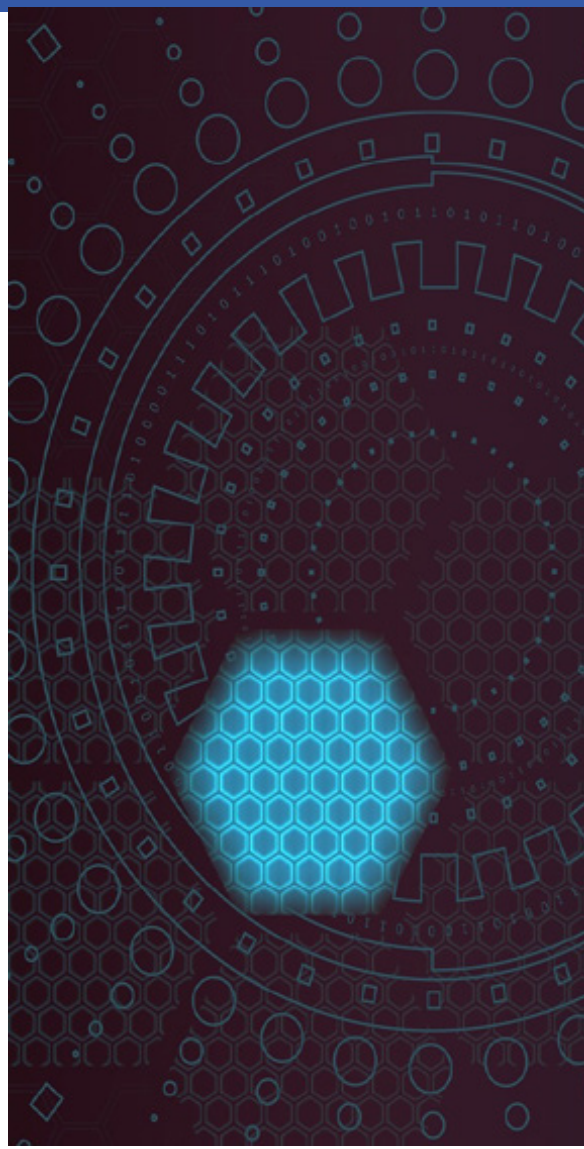
As more functional blockchain network applications have emerged that validate the use of the technology in the business context, discussions regarding its use case and application are shifting.

Deloitte's 2019 Global Blockchain Survey, for instance, indicates that 83% of executives interviewed already see compelling use cases for blockchain in their organizations.

More than half (53%) reported that blockchain technology is a critical priority for their organization. This momentum is translating into action, with 40% reporting that they are willing to invest US$5 million or more in new blockchain initiatives over the next 12 months.

While adoption and innovation remain sector-specific in many cases, with the financial services sector a standout early adopter, its transformational importance is gaining momentum across multiple sectors, including retail, technology, healthcare, energy, media, telecommunications and government.

This report revealed that blockchain technology has progressed through the technology hype stage and is becoming a core component of future digitalized ecosystems. However, slow transaction speeds, a lack of standardization, a dearth of available expertise, development costs and a general lack of trust are a few factors that threaten to stunt blockchain's adoption and use within the broader business environment.



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Adoption drivers

While the cryptocurrency sector works to maintain an independent and decentralized ecosystem that remains out of the control of governments and regulators, many blockchain proponents believe that greater regulation would drive mass adoption. Regulatory frameworks that govern best practices and promote standardization by aligning global markets and create strict frameworks for compliance would facilitate greater trust.

The industry is also working to develop more efficient models that can speed up transaction speeds, primarily through new consensus mechanisms that aim to accelerate transaction processing.

In terms of navigating the cost and complexity of blockchain development, Deloitte's 2019 Global Blockchain Survey highlights the rising blockchain consortia trend, as businesses in a variety of industries continue to join and explore the consortium model to develop blockchain applications, share expertise, and catalyze the broader blockchain ecosystem.

While consortia present challenges for blockchain practitioners — including intellectual property concerns; funding uncertainty; and business, technology and regulatory risk factors — they will continue to figure in the blockchain landscape.

Blockchain deployment

Businesses, either in isolation or as part of consortia, are also exploring more efficient deployment models to embrace blockchain in their organizations. In this regard, numerous models are emerging.

Blockchain as a Service (BaaS) enables businesses to leverage cloud-based solutions to build, host and use blockchain apps, smart contracts and functions on the blockchain, which mitigates many development and integration issues. This deployment model also offers significant cost benefits.

In instances where organizations are unable or unwilling to deploy either full public or private blockchain solutions, many are embracing a hybrid model, which combines the best features and functionality of both public and private blockchains in a customizable solution.

Similarly, a federated blockchain offers organizations within a specific industry - or those that operate under a centralized regulator - an opportunity to customize a private blockchain, as it allows multiple authorities to control the blockchain and pre-select nodes. The selected group of nodes then ensure that the block is validated for processing transactions.

The business chain reaction

The business chain reaction

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While many companies are still getting to grips with the technology itself, others already play in the blockchain technology space, which positions them as pioneering implementors.

Early blockchain adopters are primarily organizations that require trustworthy transactions, secure administration and record keeping, as the technology allows them to track transactions with greater confidence and security.

However, blockchain's significant business potential extends beyond the ability to merely transact in a secure and transparent manner, which is why it has caught the attention of the world's foremost tech companies. IBM's CEO, Ginni Rometty, for example, was quoted as saying: “Anything that you can conceive of as a supply chain, blockchain can vastly improve its efficiency – it doesn't matter if it's people, numbers, data or money.”

Companies are increasingly discovering innovative ways to apply this breakthrough technology in their business to revolutionize operating models and gain a competitive advantage.

The key to unlocking these capabilities resides in the blockchain's ability to strip out complexity through the way information is verified and securely stored and accessed. This negates the need to interface with multiple systems and can remove the need for intermediaries, which can tear down the information silos that currently exist in many applications and legacy back-end systems.

As such, blockchain technology is increasingly considered a solution for enhanced efficiency and simplicity, which when applied correctly, can lower overall operational costs to improve margins, while boosting service delivery.

However, blockchain is not the solution to every business pain point or challenge. Organizations that adopt blockchain should be realistic about its real-world applications. It does not come with an overnight, one-time technology deployment – it’s a business journey that, increasingly, is being seen as solving some legitimate customer experience (CX) hinderances and hurdles.

In this regard, blockchain technology can streamline operations by removing redundant processes or automating repetitive tasks to reimagine inefficient value chains.

Compelling use cases also emerge when blockchain technology converges with artificial intelligence (AI) and machine learning (ML).

For example, blockchain and AI can substantially impact how organizations handle and utilize big data. Blockchain solutions offer a safe, secure, immutable data storage solution, while AI can translate this data into actionable insights that help to craft bespoke CX which can then be automated through ML to deliver personalized services at scale. Conversely, blockchain can also make AI more coherent and understandable and offers the ability to trace and determine why decisions are made in machine learning.

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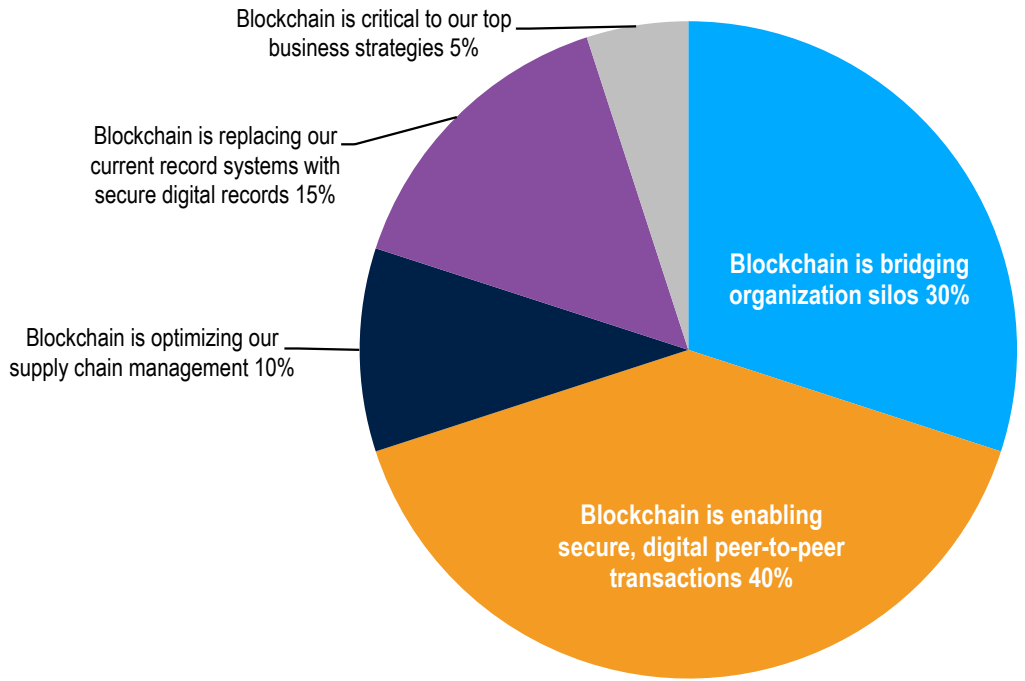
How is Blockchain impacting your broader business operations?



Survey findings affirm global trends. Early adopters primarily use blockchain for transactional functions, such as enabling secure, digital peer-to-peer transactions (40%), and securing digital records (15%). However, findings indicate that blockchain's application as a catalyst for business model transformation is rising, with 30% of respondents looking to blockchain to bridge organizational silos, and 5% indicating that blockchain is critical to top business strategies.

Forecast:
As more companies realize that blockchain applications within their business extends beyond secure and transparent transactional capabilities, expect greater focus on how blockchain can transform operations to improve efficiency, unlock new business opportunities and deliver a competitive advantage. Already, 10% of respondents consider blockchain as a means to optimize their supply chain management functions - that proportion will rise rapidly in coming months.

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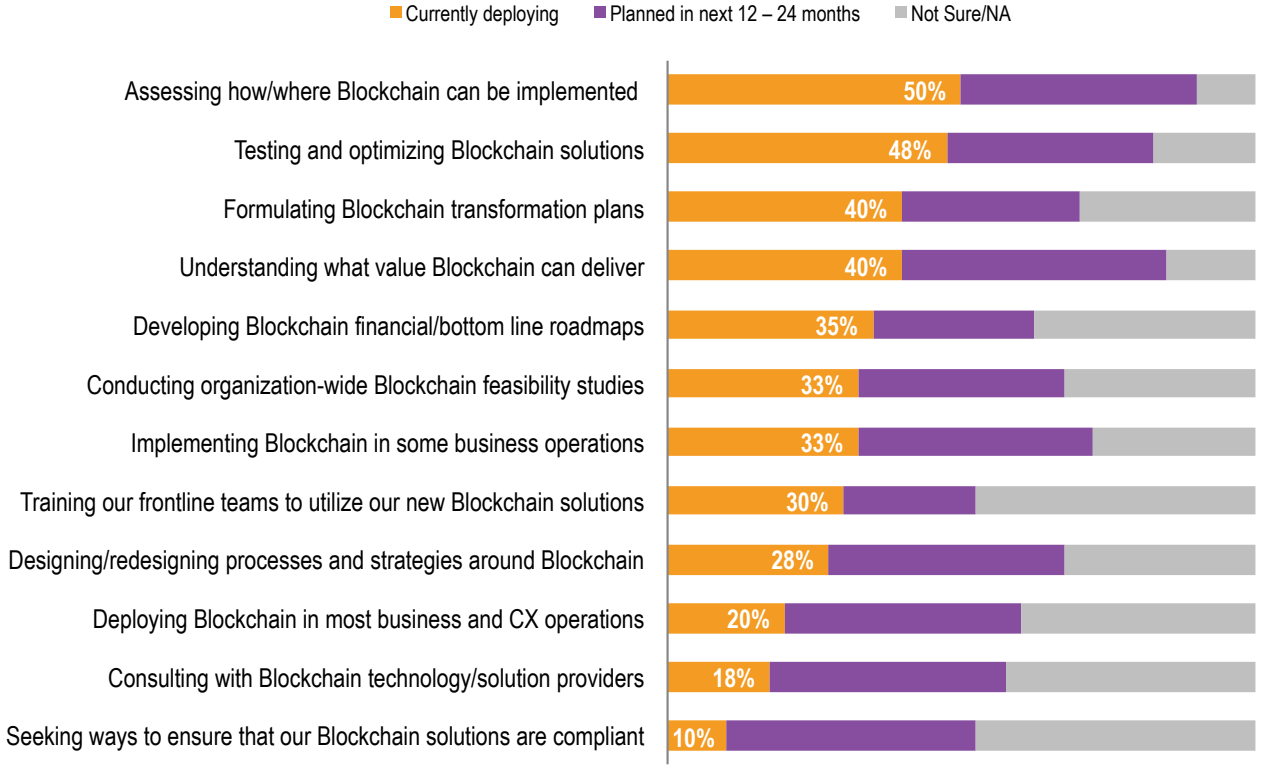
How far up the value chain in your contact centre(s) and broader business operations have you deployed Blockchain?



While the majority of respondents are still assessing where to apply blockchain in their business (50%), or testing and optimizing blockchain solutions (48%), early adopters are already implementing the technology in some business operations (33%), with 20% currently deploying blockchain in many business operations.

Forecast:

There is a groundswell of strategizing, planning and development around blockchain across the enterprise, according to the survey findings. As more more companies move past the stages of understanding the value that blockchain can deliver (40%) to their organization and formulating blockchain transformation plans, broader adoption should accelerate to reach a tipping point over the medium term.

CX BLOCKCHAIN Institute

The business chain reaction

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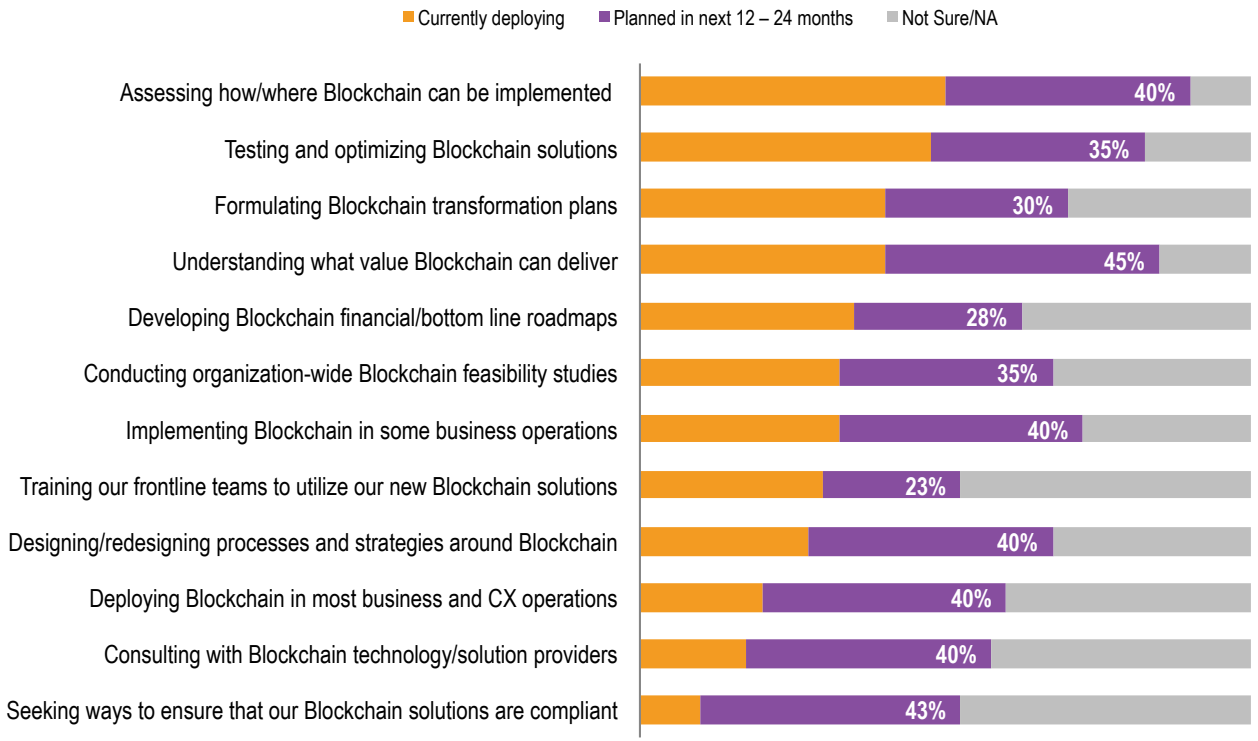
How far up the value chain in your contact centre(s) and broader business operations are you planning to implement Blockchain in the next 12 - 24 months?

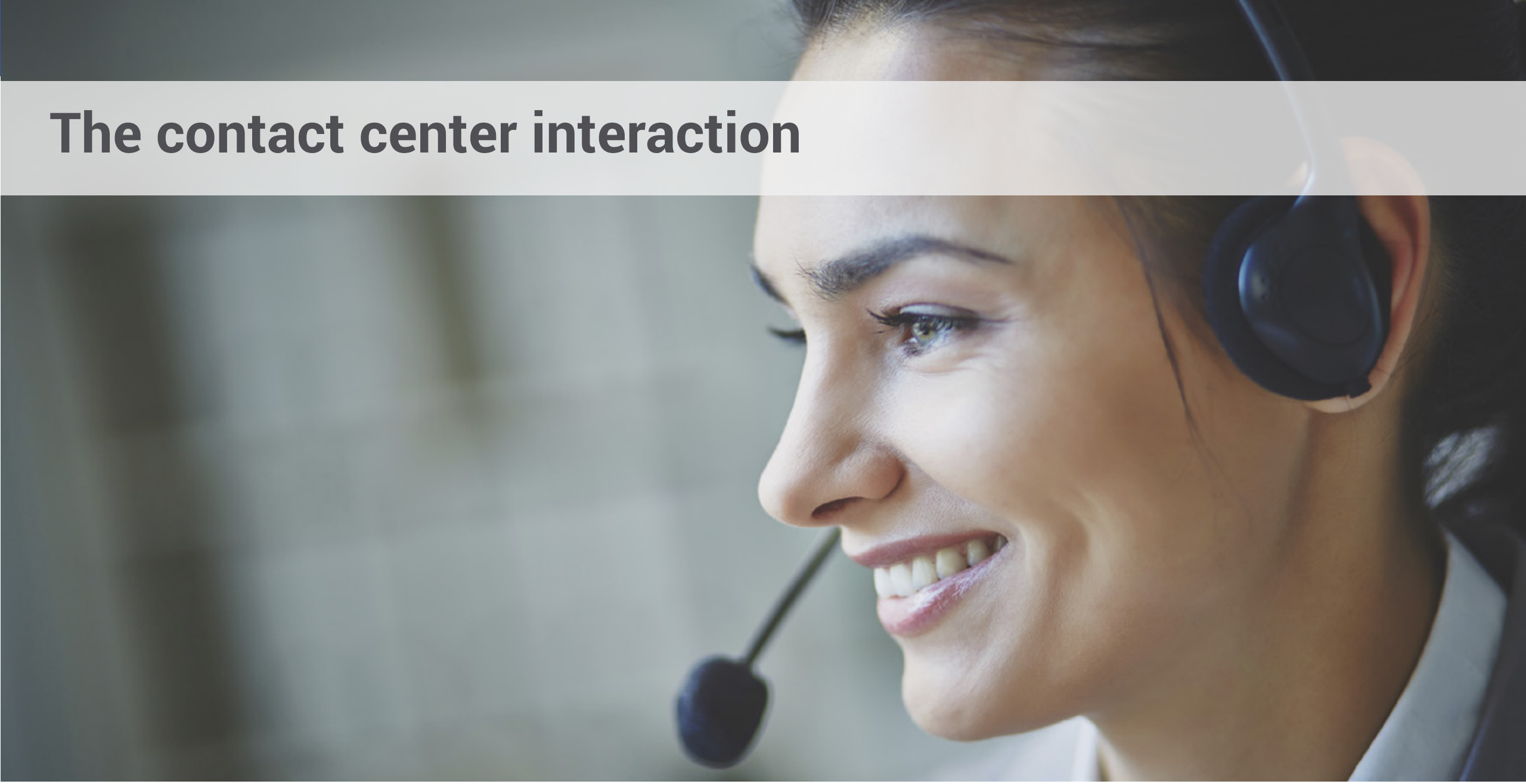


Most respondents are deep into their assessment and evaluation of blockchain technology and its application in their business. In the next 12-24 months, a large proportion (45%) will seek to understand what blockchain can deliver for their businesses while 40% will design or redesign processes and strategies around blockchain or deploy blockchain in their business or CX operations.

Forecast:

Based on the status of current deployments and those planned for the next 12 - 24 months among survey respondents, blockchain technology should reach maturity within most global business verticals within the next two years. Expect to see more organizations implement feasibility studies, consult with solution providers and develop financial roadmaps as they seek to unlock the value the blockchain can deliver for their businesses.

The contact center interaction



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In the contact center environment, blockchain technology is helping to address various issues, such as fortifying transactions, relationships and records across channels. This creates opportunities for service delivery consistency across voice, web, chat and email, which remains a major challenge for contact center operators.

In this regard, blockchain technology can empower contact center agents by providing relevant information in an encrypted and secure manner that can inform and shape customer engagement in real-time.

Instantaneous access to relevant customer data and insights can reduce first-call resolution times, which improve customer service, while access to information can shape meaningful engagements that are contextually relevant across channels to enhance customer satisfaction.

Blockchain technology can also introduce more efficient data management capabilities into the contact center. The ability to support immutable records, transparent trust and transactional automation through smart contracts makes blockchain technology the ideal solution to administer and manage a customer's dynamic digital identity. This functionality can provide operators with a single view of the customer and enhance customer journey mapping and lifecycle management.

Operators that combine blockchain technology with AI and ML can create additional operational efficiencies that enhance CX and customer satisfaction by pushing more interactions onto automated digital platforms such as AI-enabled bots.

Automating more omnichannel interactions in this way reduces friction and improves operational efficiencies because contact center operators can off-load the less personal, more mundane and basic customer requests from agents onto an automated system to reduce handling times, accommodate greater interaction volumes and boost agent productivity.

Through these applications, blockchain will drive a shift in the traditional contact center operating model, which can drastically improve service delivery while also positively impacting on margins and profitability. This enhanced service delivery and consistency across channels also crafts meaningful customer relationships that entrench loyalty and drive repeat business.

Empowered agents, enabled by a combination of blockchain, AI and RPA, can deliver more empathetic, insight-driven services to consumers

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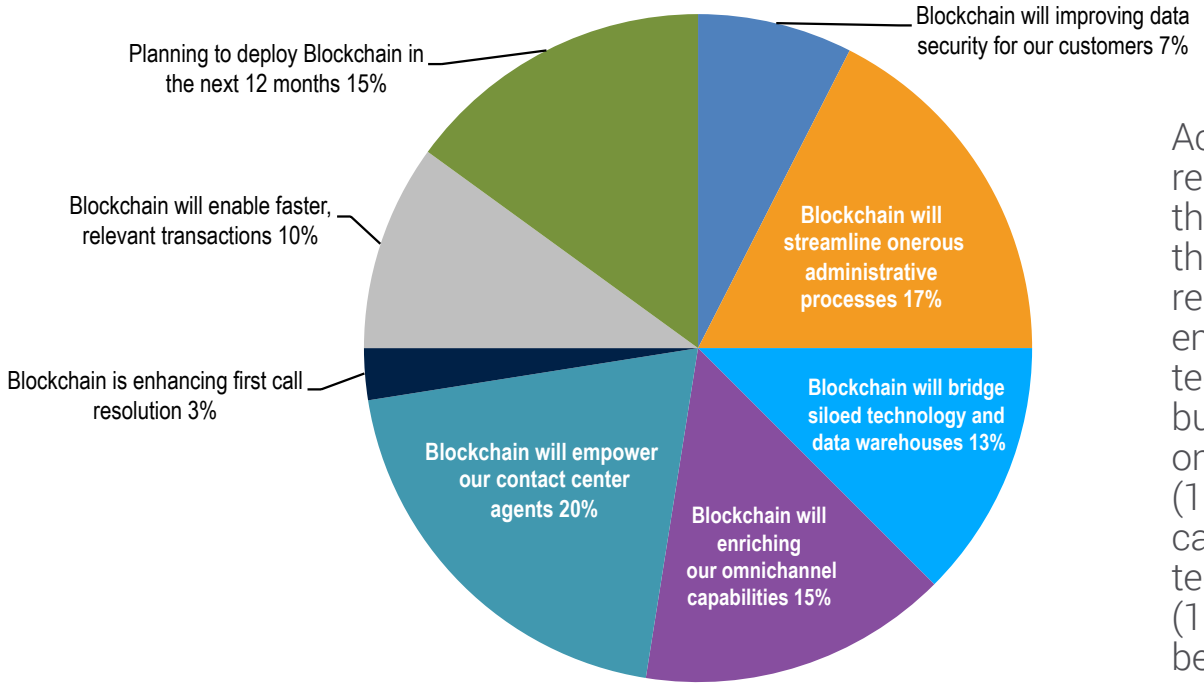
How will Blockchain impact your contact center(s) and CX operations?



Access to verified, accurate and relevant customer information sits at the heart of blockchain's application in the contact center, with 20% of respondents identifying the ability to empower contact center agents as the technology's biggest potential business impact. Streamlining onerous administrative processes (17%), enriching omnichannel capabilities (15%) and bridging siloed technology and data warehouses (13%) were the other key business benefits to emerge.

Forecast:
As more organizations adopt and combine blockchain with other intelligent technologies such as AI and ML, expect it to become more prevalent as contact centers realize the benefits of enhanced first call resolution while improving, and augmenting, processes and systems for data protection and security.

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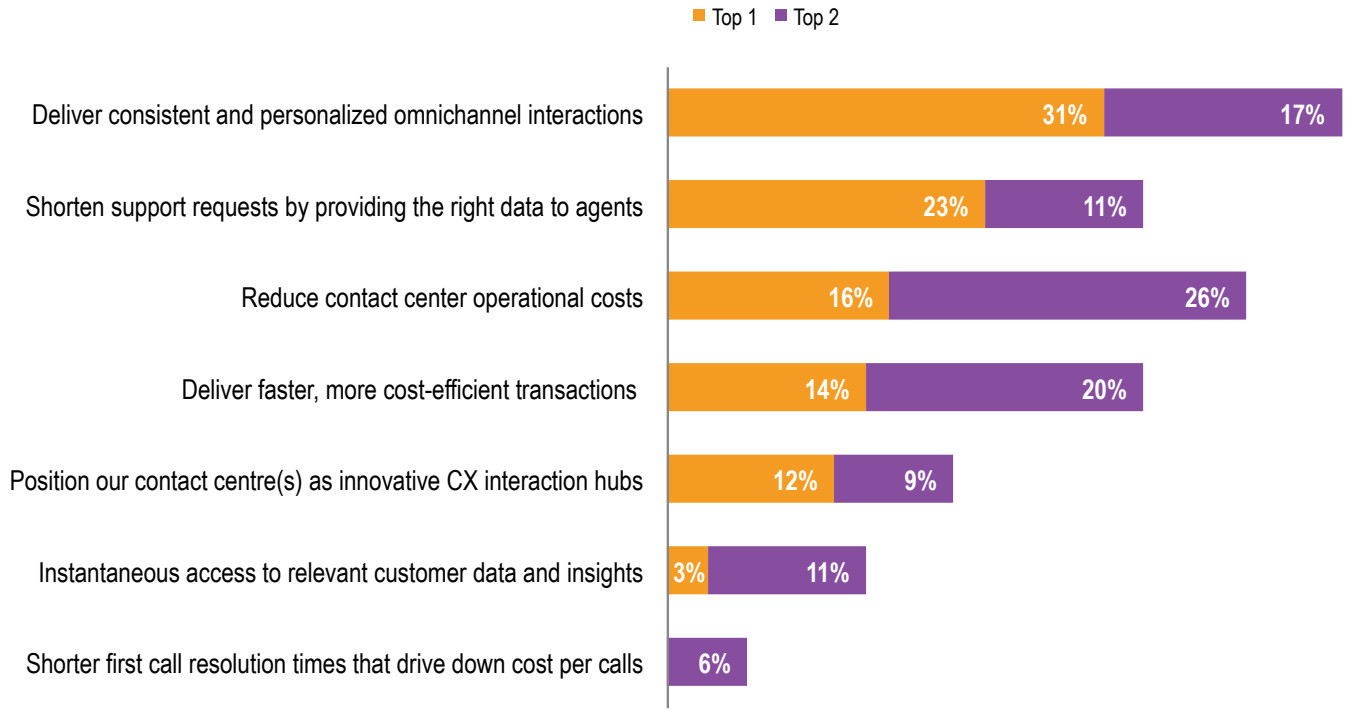
CONTACT CENTERS: What would be the top motivating factors and business drivers to deploy Blockchain in your contact center(s) in the next 12 months?



Among respondents that have yet to implement blockchain in their contact center(s), its potential to deliver consistent and personalized omnichannel interactions was the most prolific benefit identified (31%), followed by faster resolutions for support requests enabled by providing the right data to agents (23%). Cost reductions across the business was another key consideration.

Forecast:
As contact centers increasingly differentiate their service offering and compete based on CX to build customer loyalty and drive repeat business, expect blockchain's relevance and application in customer engagement and operating model transformation to rise.

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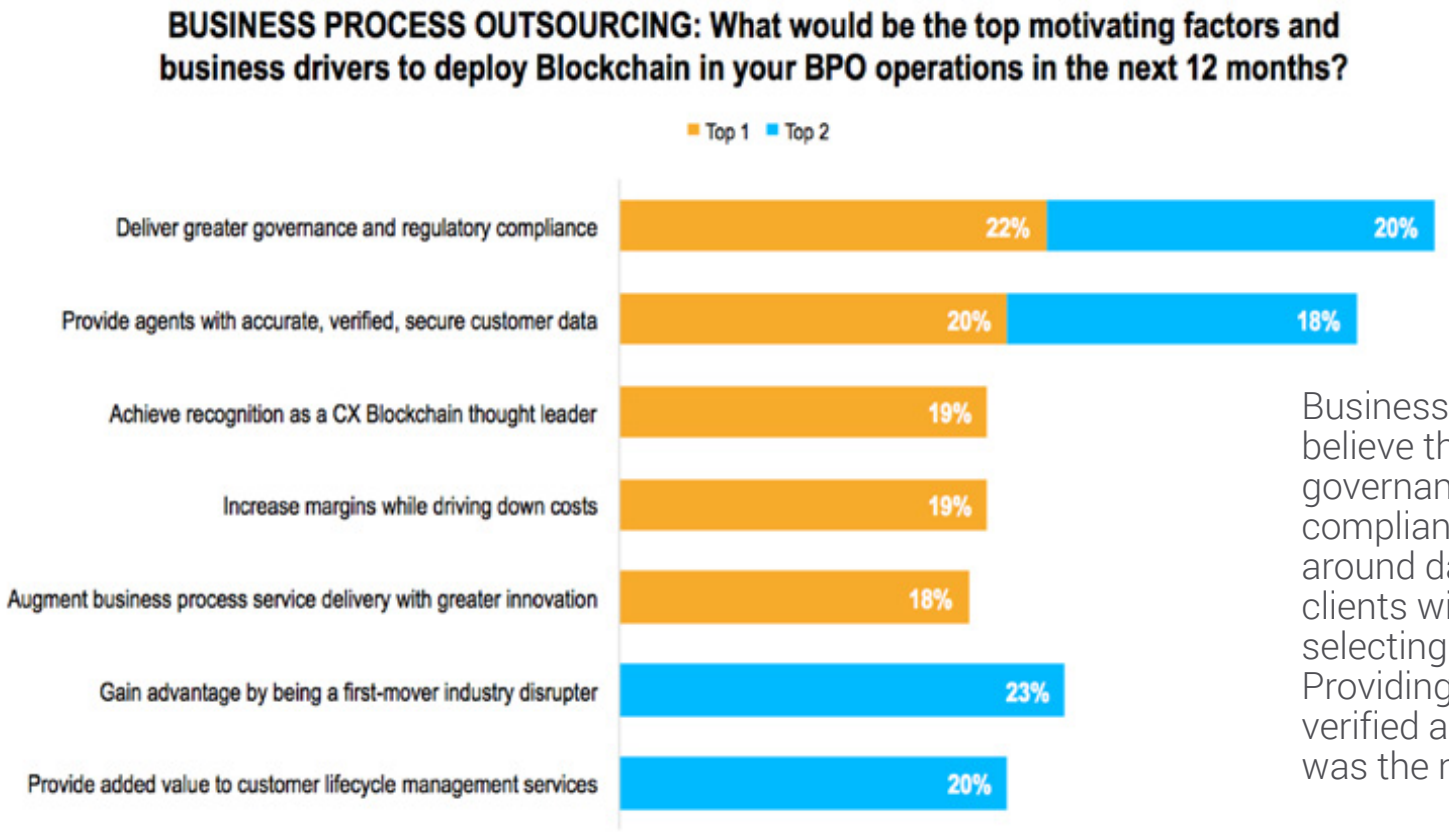

Business process outsourcers (BPOs) believe that Blockchain can help solve governance, regulatory and compliance issues (particularly around data management) for their clients with 22% of respondents selecting this as a top choice. Providing agents with accurate, verified and secure customer data was the next motivating factor (20%).

Forecast:
As more BPO service providers realize the benefits that blockchain delivers in the contact center environment, expect them to adopt this as a service differentiator enabling them to position themselves as CX blockchain thought leaders and gain advantage by being first-movers and industry disrupters in this space.

The contact center interaction

When asked what pain points blockchain can/could solve in their contact center operations, BPO service providers selected reducing costs while increasing profitability (43%)as a top driver followed by providing secure, reliable guarantees for data security and protection (29%).

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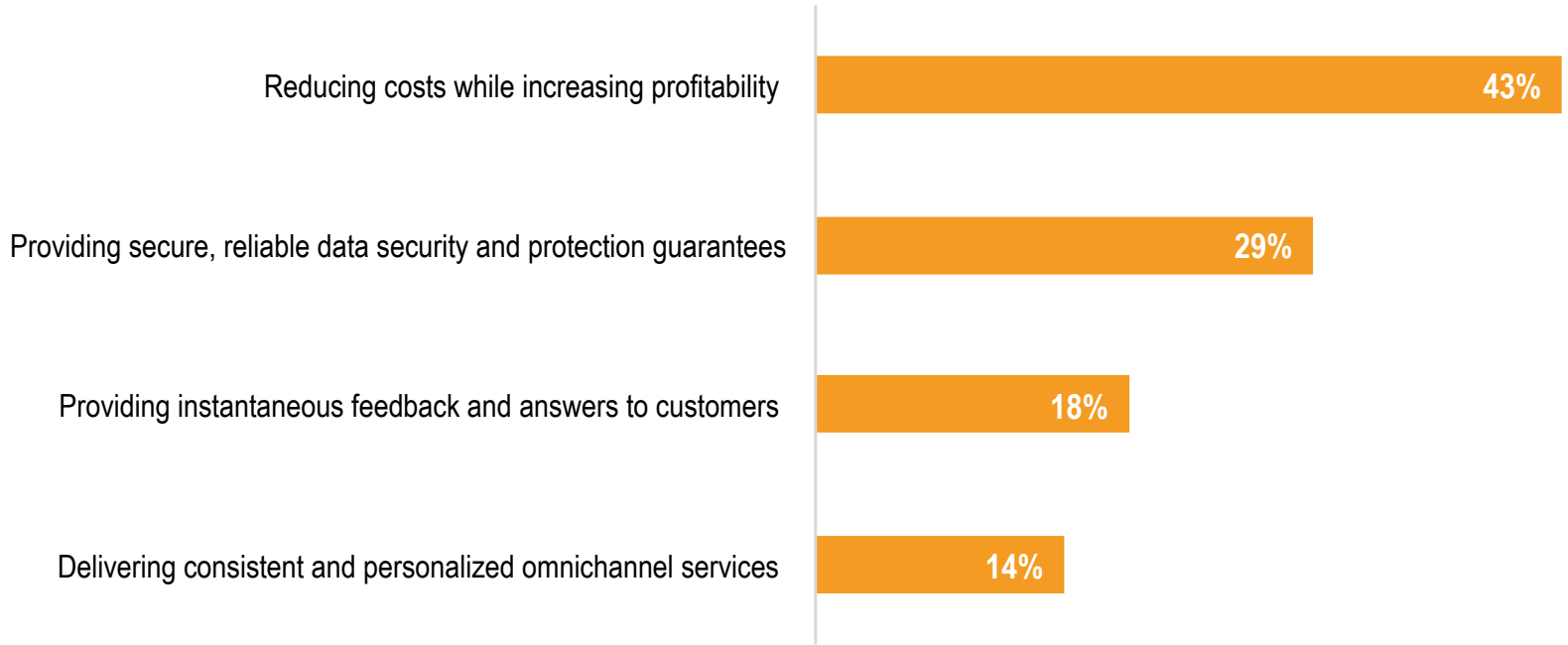
Top 1 | CX Blockchain Drivers | BPO



Second-choice business drivers for BPOs included utilizing blockchain to differentiate their service delivery and value propositions from competitors (41%) while enabling frontline staff to deliver empathetic, meaningful conversations when interacting with consumers (19%).

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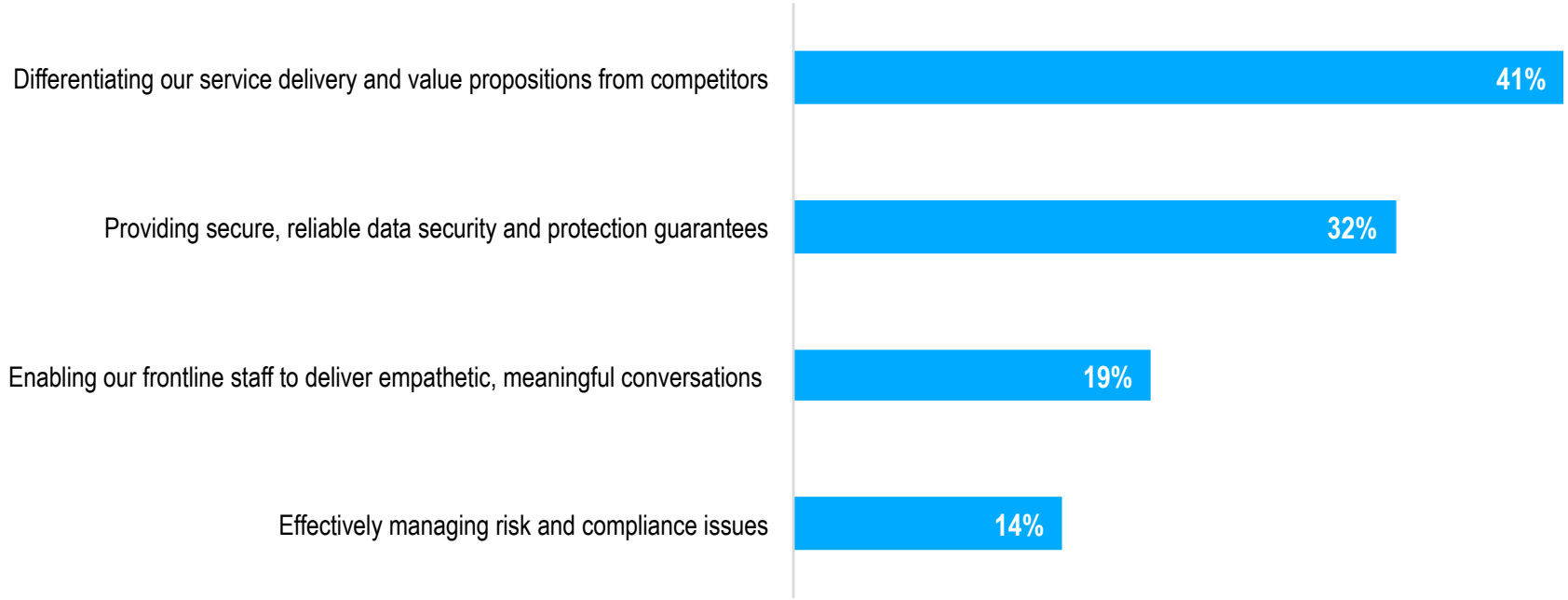
Top 2 | CX Blockchain Drivers | BPO



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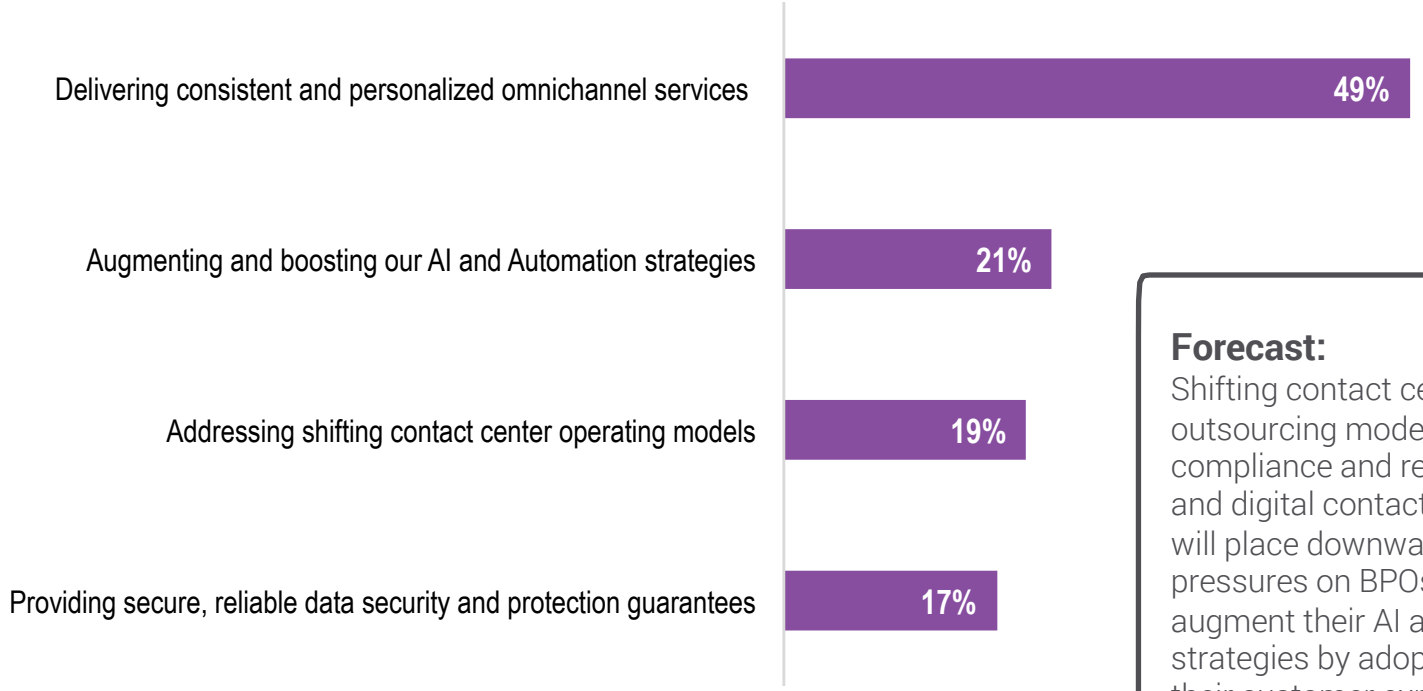
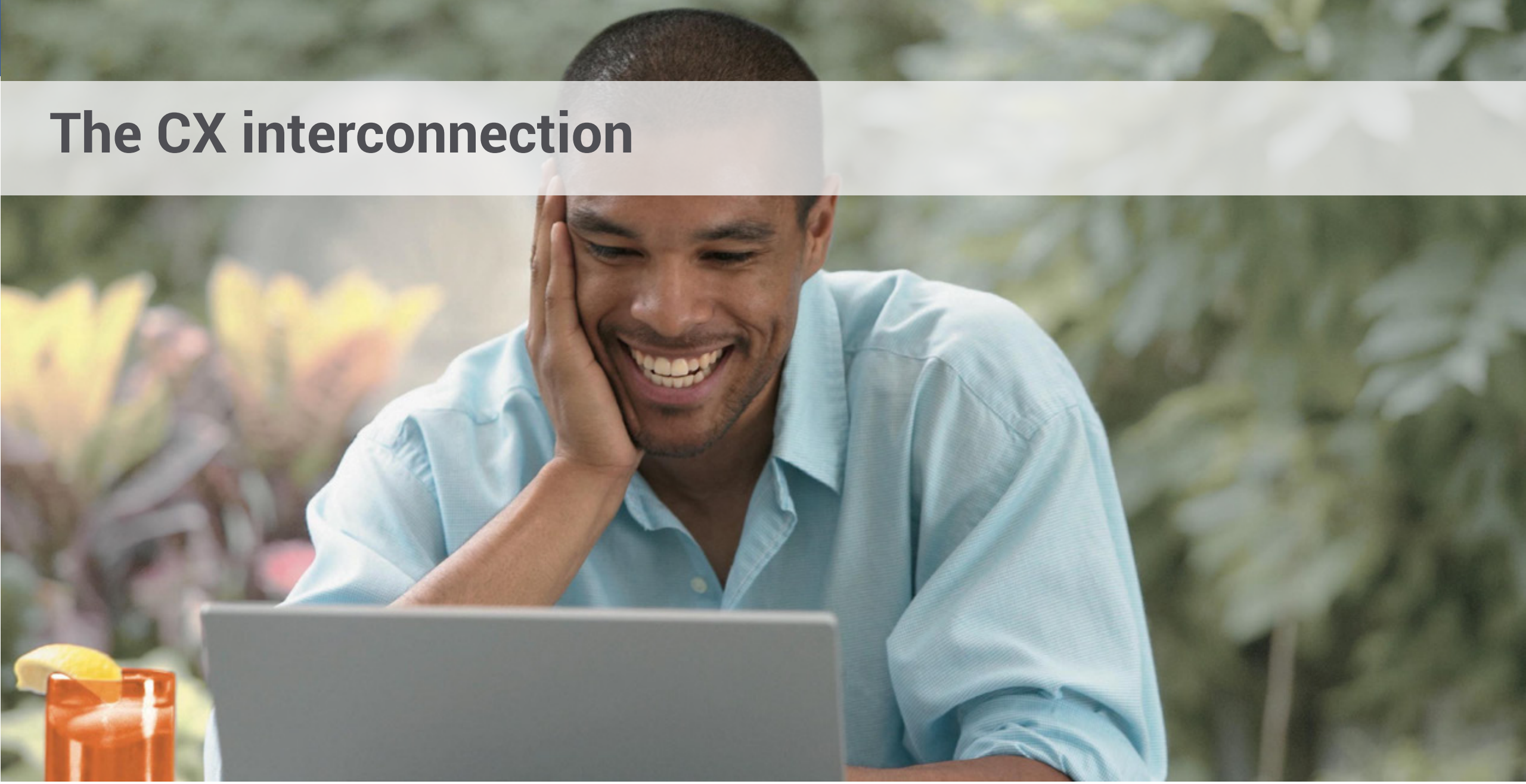
Top 3 | CX Blockchain Drivers | BPO



Forecast:
Shifting contact center operating and outsourcing models, stricter compliance and regulatory demands and digital contact center necessities will place downward and sideward pressures on BPOs. Expect them to augment their AI and automation strategies by adopting blockchain in their customer experience (CX) and lifecycle management and business process services.

The CX interconnection



From a CX perspective, blockchain has the potential to revolutionize how a contact center interacts with customers.

For instance, blockchain technology can consolidate multiple data points and sources to construct a unified digital customer profile. The ability to disintermediate third parties simplifies the process because it eliminates the need to conduct research and source information from different sources.

This effectively delivers instant access to verified, accurate and authentic client data, which helps to inform customer preferences around engagement and other services, with instant access to a customer's history to provide context and relevance to every interaction.

Agents are also empowered to provide instantaneous feedback or answers to the customer that are correct and relevant at the first time of asking. This negates the need for call backs which can significantly enhance CX.

These capabilities can reduce or remove the redundancy and onerous time requirements associated with conducting multiple reference and data verifications checks with multiple organizations when on-boarding new customers or authenticating existing ones.

A complete and up-to-date record of a client's engagement history and the use of smart contracts can greatly reduce the friction commonly experienced during contact center engagements, without compromising an operator's requirement to meet security standards and compliance requirements. Organizations can also leverage the transparency that the blockchain creates to foster trust among consumers, offering them the opportunity to, for example, review their entire transaction and engagement history with the company.

Blockchain-based solutions can also reduce risks to enhance CX through its payment verification and order fulfillment capabilities. Rather than access third party systems to confirm payment, the blockchain can confirm payment or order completion without the need to access sensitive systems or data. Customers can also retain control over who gains access to their personal data and information, and what information is specifically shared with organizations. When any change is made, it is transmitted to the entire network, and the overall network is updated. This creates unprecedented levels of transparency with the ability to control a consumer's digital identity.

Blockchain-enabled CX services can facilitate beneficial, relevant and meaningful conversations with customers across multiple channels and devices

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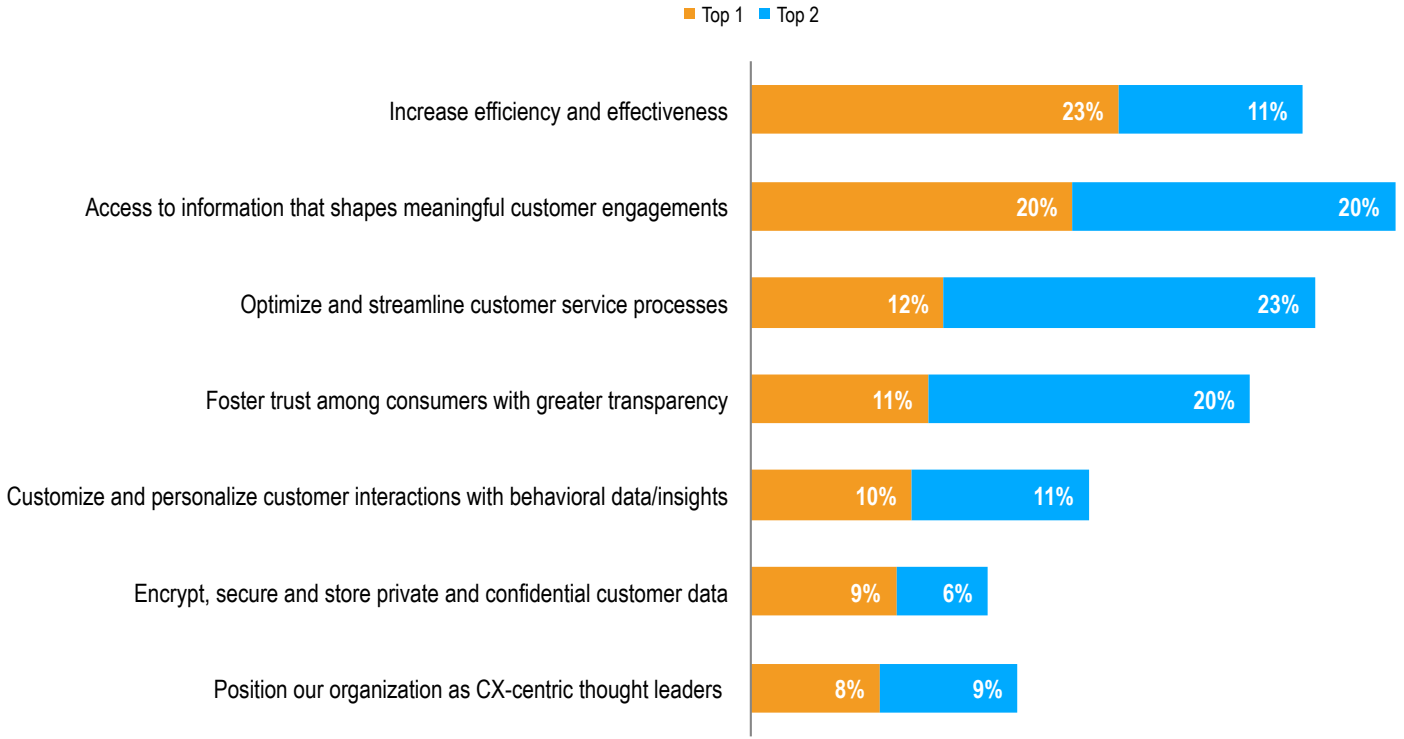
CUSTOMER EXPERIENCE (CX): What would be the top motivating factors and business drivers to deploy Blockchain in your CX operations in the next 12 months?



Customer data and channel fragmentation are major challenges faced by contact center operators looking to champion CX and gain a competitive market advantage. Accordingly, access to information that shapes meaningful customer engagements (20%) and the ability to increase efficiency and effectiveness (23%) were the top motivating blockchain deployment factors among respondents.

Forecast:
As trust and digital proficiency among mainstream consumers grows, organizations will increasingly leverage the transparency that blockchain offers to empower consumers to manage their digital identifies and authorize access to their personal information, while extending self-service and automated engagement capabilities to streamline contact center engagements and enhance CX. This functionality also creates opportunities to off-load mundane, less onerous tasks from agents onto AI-enabled bots and robo-advisors.

Blockchain + CX in banking

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Banks today grapple with various service delivery issues that arise from established organizational silos and product, department and channel fragmentation brought about by disparate systems and disconnected contact centers.

However, blockchain technology can effectively address these challenges and, when implemented correctly, can transform how banks service clients in the future, particularly in how they exchange data, information and money.

For example, blockchain solutions have the potential to expedite payment processing and settlements, while also increasing security, minimizing risks through fewer errors and exceptions, and reducing transaction costs.

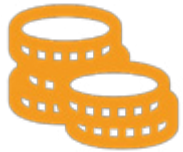
According to Accenture research, most banks are in the early stages of adoption, with about three-quarters either involved in a proof-of-concept project, formulating their blockchain strategy, or just beginning to look into it. The most prevalent use cases in banks to emerge from the research involve intra-bank cross-border transfers.

The ability to create a digital identity for customers will also empower banks to automate and streamline online application services. The ability to instantly assess eligibility for loans and credit extension through a less onerous administrative process that requires far less documentation, if at all, will greatly alleviate common customer frustrations around this banking function.

In this regard, technology providers are also developing back-end solutions that help to reduce the risk of fraud, decrease the potential for errors, and enhance transparency and security, which will benefit both bank and customer. IBM, for example, in July 2019 launched a pilot for a blockchain-powered platform designed to streamline the bank guarantee process.

Similar systems can help to reduce the administrative load and complexity of regulatory compliance, reducing the burden-of-proof requirements from both banks and clients in providing documentation to confirm their identity and meet Know Your Customer (KYC) regulations. Streamlining this process will significantly enhance CX within the financial services space.

Blockchain-fueled fintech innovation is also creating new investment models that are set to revolutionize the user experience, empowering investors by giving them greater visibility into how financial services providers invest their money, or the ability to manage their assets more closely.



Banks are looking to blockchain to help solve pain points such as bridging organization and technology silos

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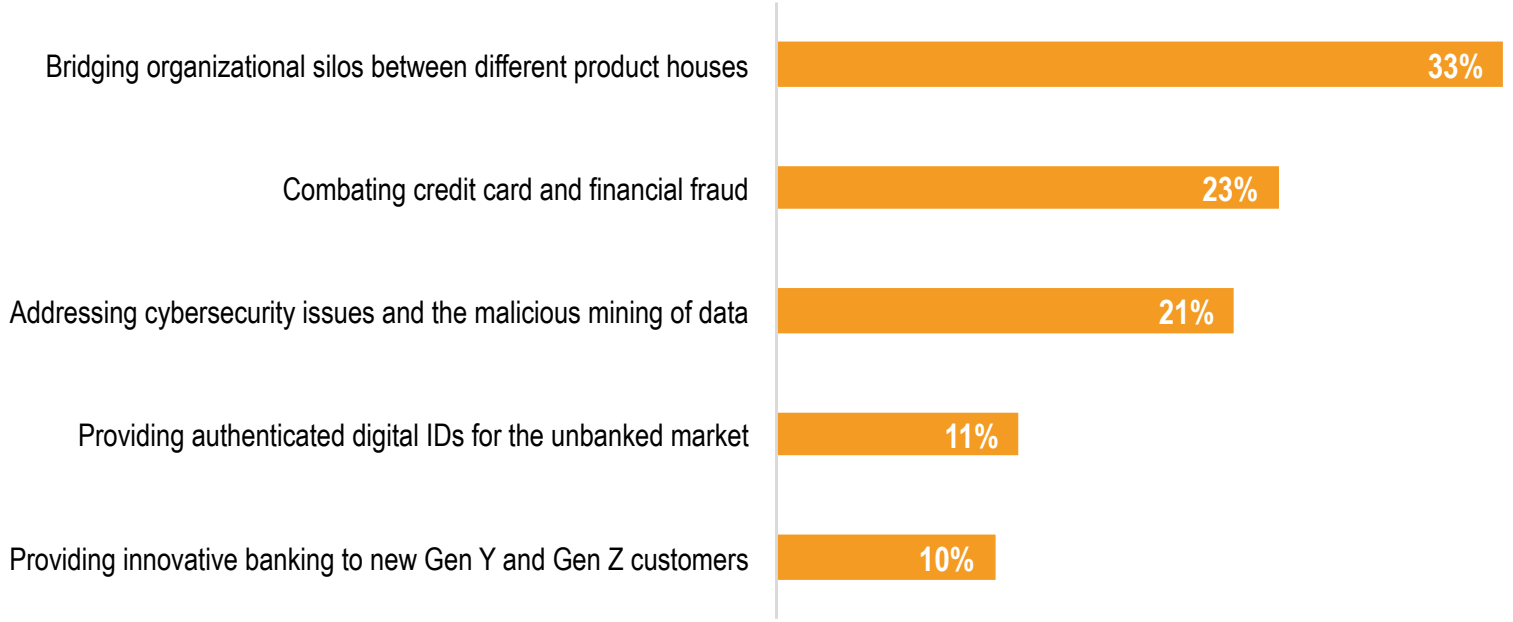
Top 1 | CX Blockchain Drivers | Banking



The financial sector's early adopter status is clearly evident from the survey findings with diverse blockchain applications cited by respondents as major focus areas. Bridging organizational silos between different product houses was the Top1 (and Top 3) business driver chosen by most banks (33%) followed by combating credit card and financial fraud (23%) and addressing cybersecurity issues and the malicious mining of data (21%).

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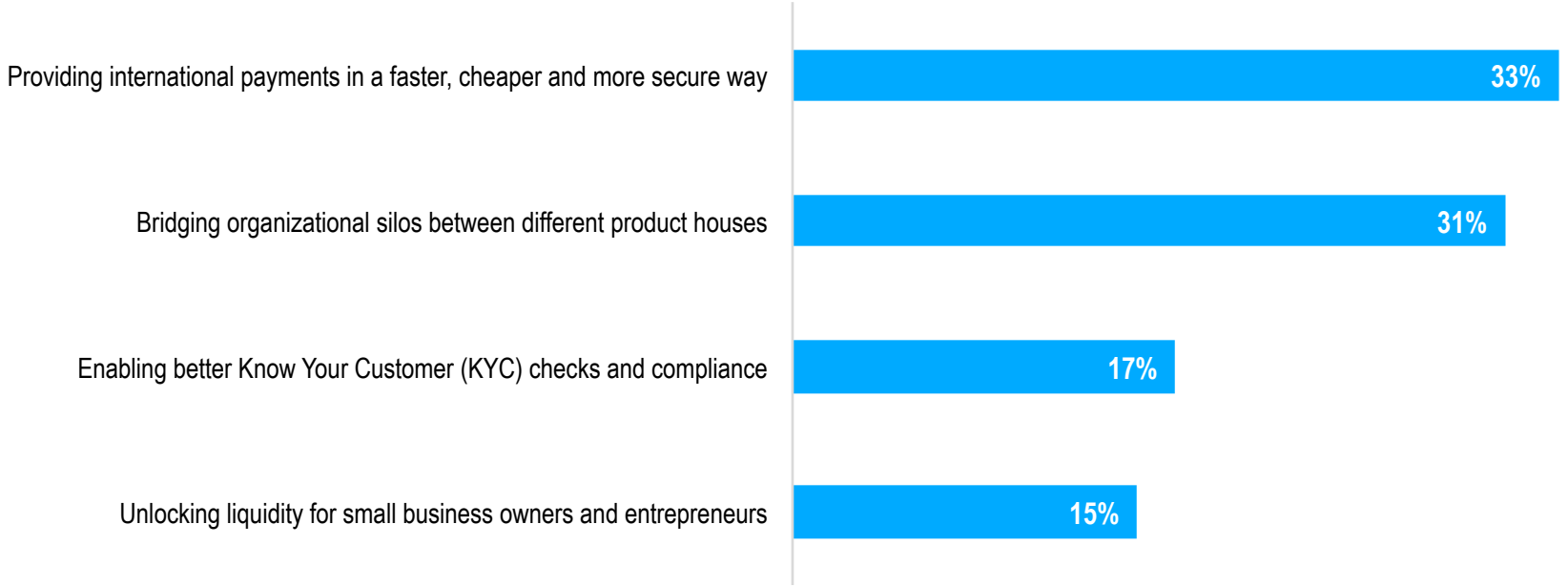
Top 2 | CX Blockchain Drivers | Banking



When considering how blockchain can solve pain points or challenges in the CX environments, the Top 2 choices selected by bankers included providing international payments in faster, cheaper and more secure ways (33%) and enabling better Know Your Customer (KYC) checks and compliance along with unlocking liquidity for small business owners and entrepreneurs (17%).

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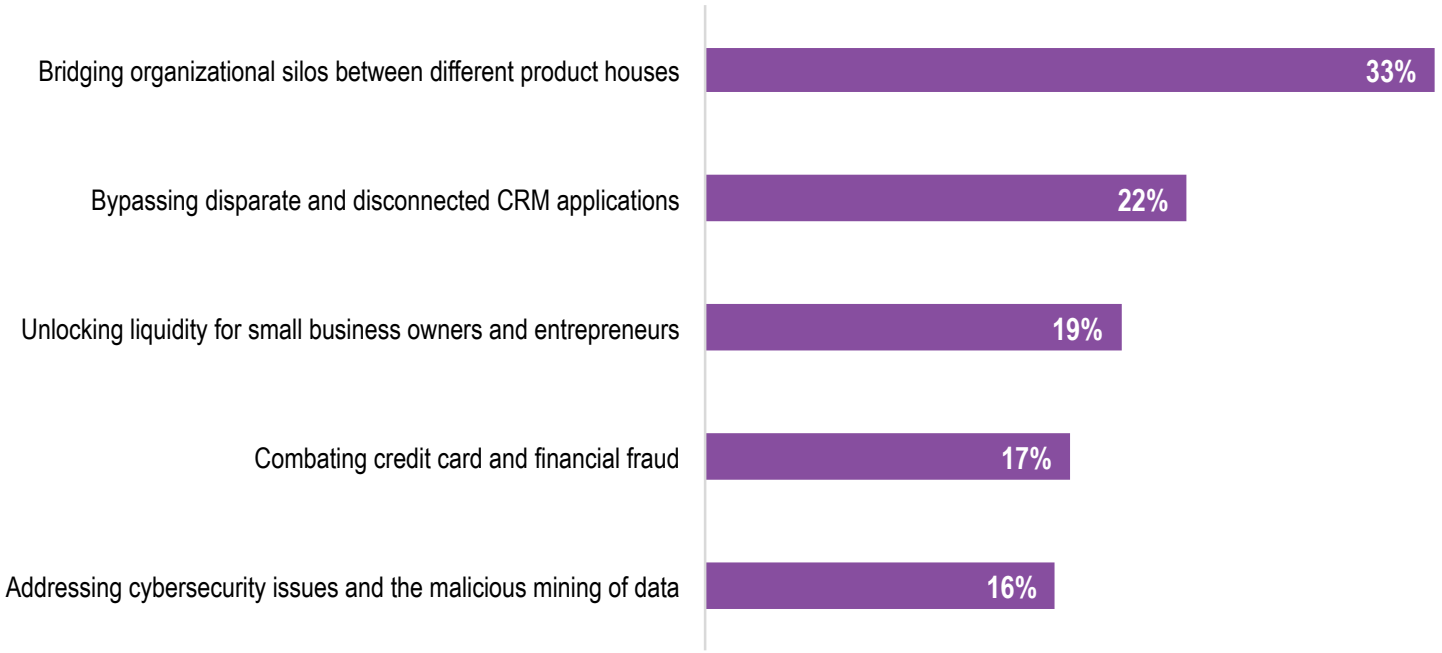
Top 3 | CX Blockchain Drivers | Banking



Forecast:
Emerging blockchain applications in the banking sector will likely blend intelligent technologies such as AI and ML to empower investors by offering personalized recommendations around saving and investing. Blockchain solutions will also offer clients greater visibility into how financial service providers invest their money, or their ability to manage their assets more closely.

Blockchain + CX in government

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Blockchain + CX in government

A growing number of governments across the globe are embracing blockchain to improve public services, create new operating models, improve state-owned enterprises and build trust among citizens through open, transparent and collaborative networks.

As more countries build out e-government capabilities, obvious blockchain applications emerge in how public sector organizations and departments engage with external and internal stakeholders.

For instance, the ability to provide information once to a department, which is then seamlessly shared across every other government department, would significantly improve the user experience for both the public and businesses.

Creating a permanent record of every transactions with its citizens also enables governments to safely and securely track all historical data to create a unified and accurate citizen profile that draws information from multiple record sources.

In this regard, blockchain-enabled e-government systems could expedite document issuance related to travel documentation or business-related applications, which can enhance citizen-centric services and support trade and industry.

These systems can also support government agencies tasked with administering welfare programs and other policy implementations.

Specific examples of how government agencies are applying blockchain include the UK's Foods Standards Agency, which is using blockchain to ensure compliance in food production by tracking the distribution of meat in a cattle slaughterhouse.

The UK government is also looking at how it can leverage the technology in property registration and transfer processes, and is investing to support blockchain projects in diverse areas such as energy, voting systems and charitable giving.

The EU is investigating the blockchain's application in combating counterfeiting, while the US Food and Drug Administration has partnered with IBM to explore how they can use blockchain to securely share patient data to address the lack of transparency and security that exists in health-data processing.

Blockchain applications also exist in the intelligence and defense sectors, with possible uses in military supply chain management, cyber security amid heightened cyber warfare and secure in-field and inter-branch communication capabilities.

Governments are exploring blockchain to deliver better citizen-centric services and robust, secure voting systems for elections

Blockchain + CX in government

Ensuring data security and transparency in the public election voting process was by far the most prolific driver (38%) among government and public sector respondents. Accessing citizen data from disparate databases in different government departments was another major focus (29%) as governments look to drive efficiencies and streamline processes by creating a single view of the citizen.

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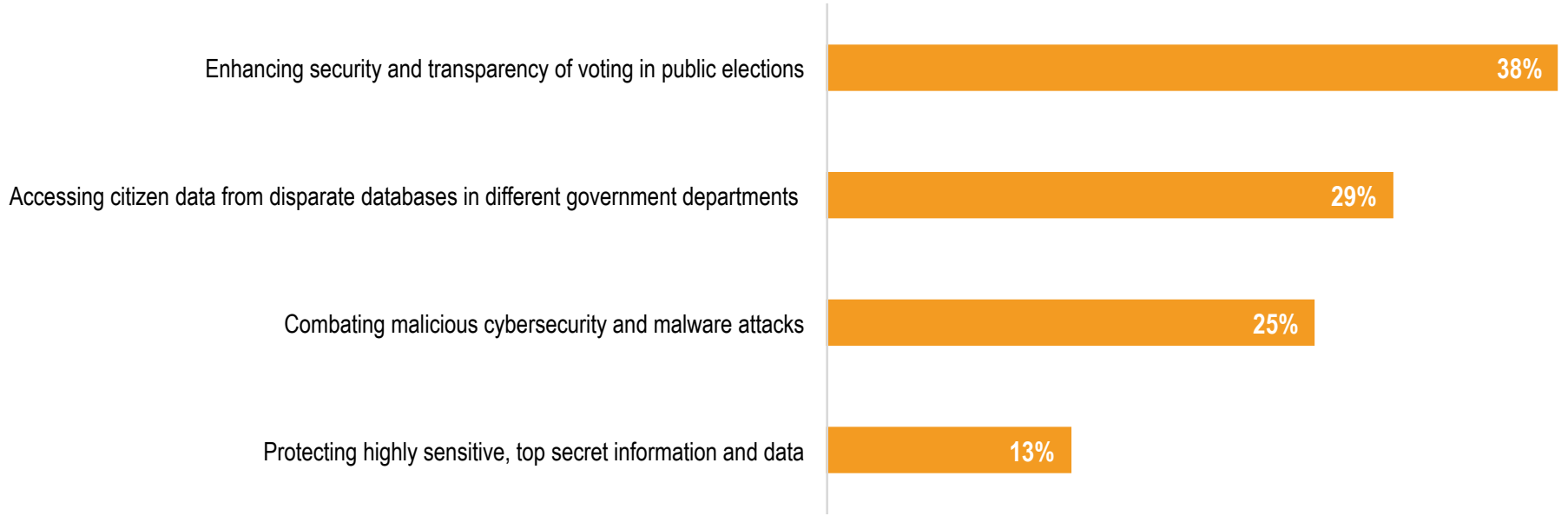
Top 1 | CX Blockchain Drivers | Government



CX BLOCKCHAIN Institute

Blockchain + CX in government

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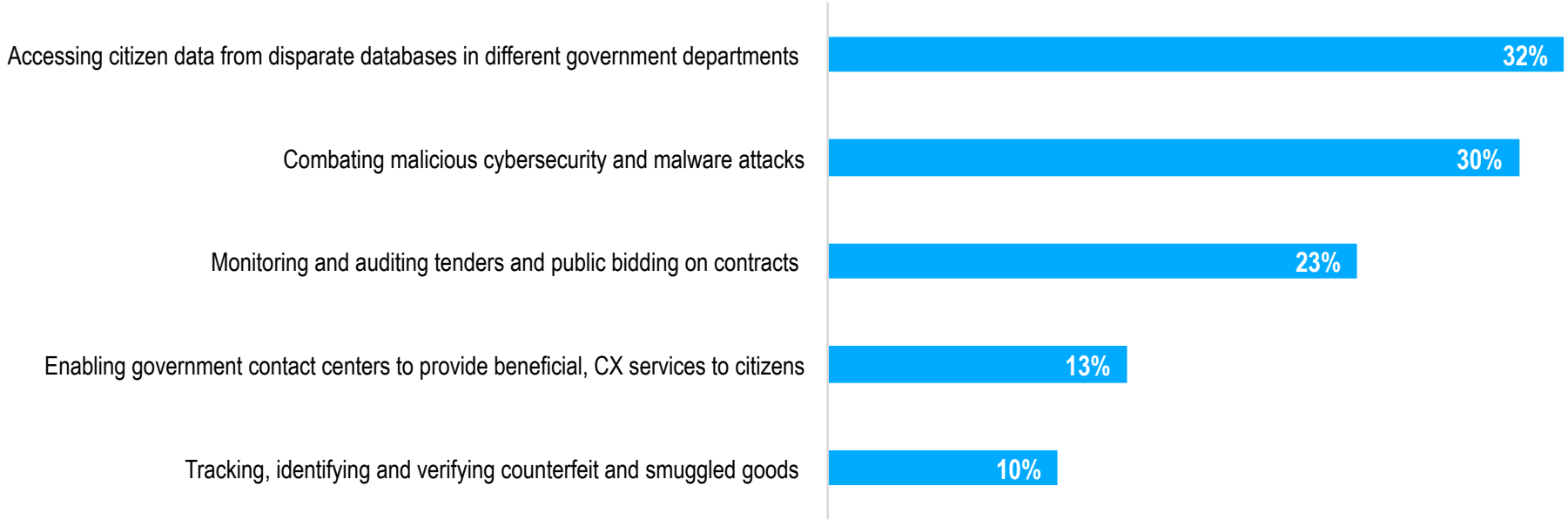
Mitigating the growing threat of cyber attacks is a clear focus area for governments, with 30% citing combating malicious cybersecurity and malware attacks as a Top 2 priority that blockchain could enable. Monitoring and auditing tenders and public bidding on contracts is another pain point that public servants believe can be addressed by blockchain (23%) as is the ability for government contact centers to provide beneficial CX services to citizens (13%).

Top 2 | CX Blockchain Drivers | Government



Blockchain + CX in government

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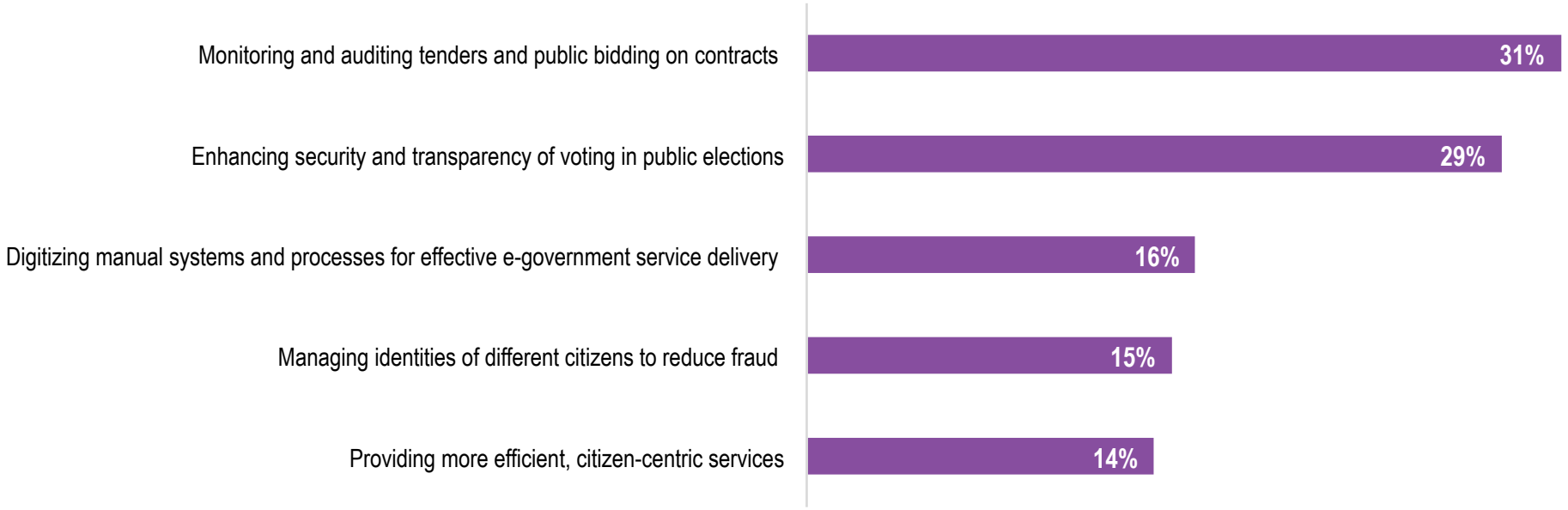
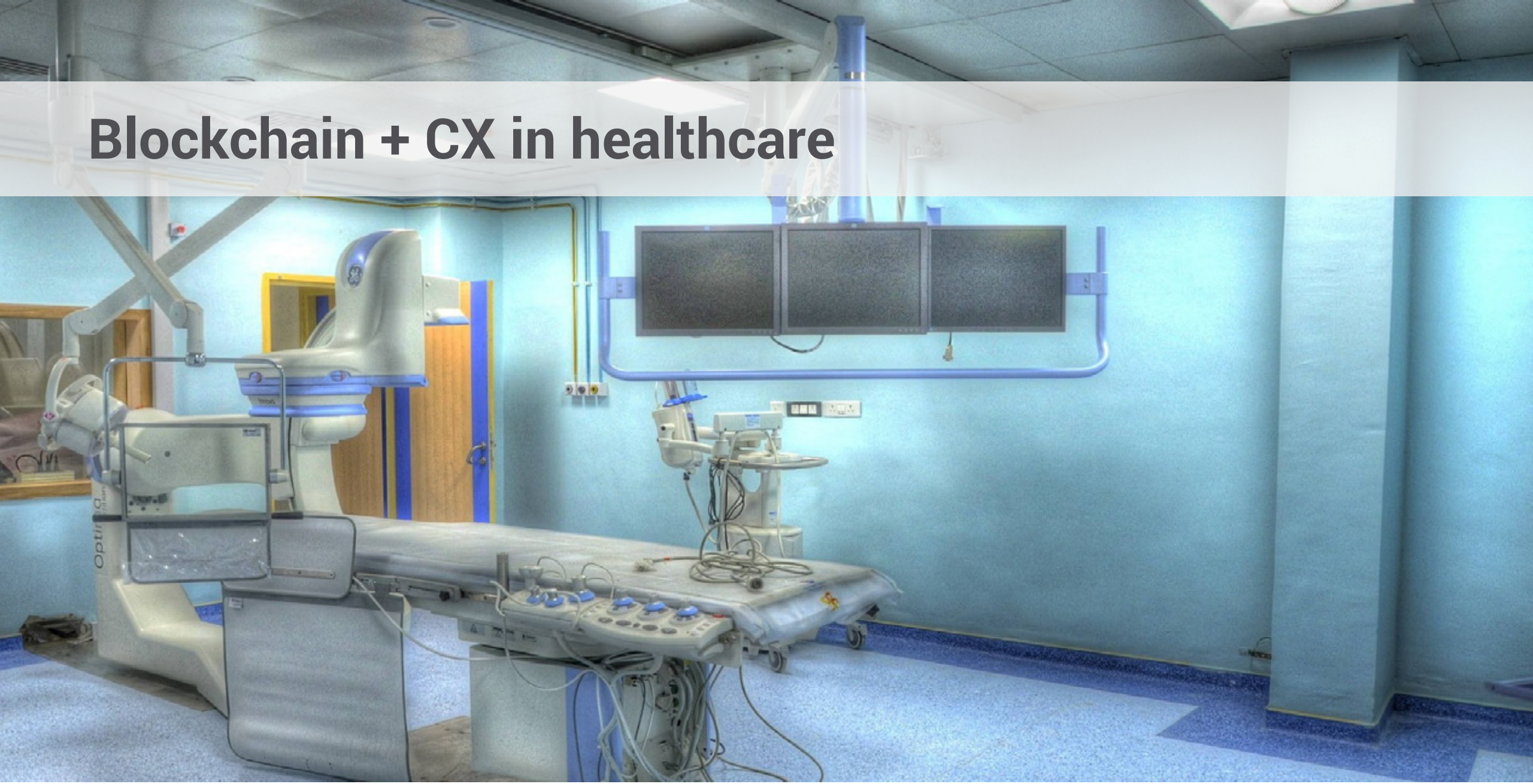
Top 3 | CX Blockchain Drivers | Government



Forecast:
Creating citizen-centric government services will remain a key focus area going forward. This requires more efficient data management, identity verification and tracking and a focus on CX in customer-facing front-line government departments and contact centers. Blockchain technology offers applications in every aspect of this citizen-centric model, so expect its role and relevance to continue rising as more e-government initiatives are rolled out.

Blockchain + CX in healthcare



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The healthcare sector is an extremely complex vertical due to the administrative burden of interfacing with multiple systems and the need to meet data privacy regulations that aim to protect sensitive patient information and many other compliance requirements.

This means that the sector is ripe for blockchain-led digital disruption. The appropriate solution could significantly improve areas such as claims processing from medical aid providers and insurers, which is a notoriously complex and laborious process, and prevent billing fraud through transparent billing management.

Blockchain technology can also improve medical record management and integration with historical and current information to provide a more holistic view of the patient. Importantly, patients could also securely share their medical data with health organizations and other medical providers, which would significantly reduce the onerous paperwork required when visiting a new facility or professional.

These capabilities would vastly improve the customer experience for patients and has the potential to transform healthcare into a patient-centric operation with increased security, privacy and interoperability around patient health data.

This accurate store of patient data also creates opportunities to enhance AI-enabled diagnostic capabilities, as medical technology innovation can blend AI, ML and analytics and medical-related big data with secure, accurate and immutable personal patient data.

Broader implications include the ability for pharmaceutical companies to track the drug supply chain to prevent losses due to counterfeit drugs and health organizations can better collate and analyze data to possibly discover new medical patterns, trends, and insights.

According to a BIS Research report, global healthcare market spend on blockchain is expected to hit $5.61 billion by 2025. This increased adoption rate could save the industry up to $100-$150 billion per year in data breach-related costs, IT costs, operations costs, support function costs and personnel costs, and reductions in fraud and counterfeit products.

Patient-centric Blockchain-enabled processes can provide holistic and accurate medical data to the desktops of contact center agents

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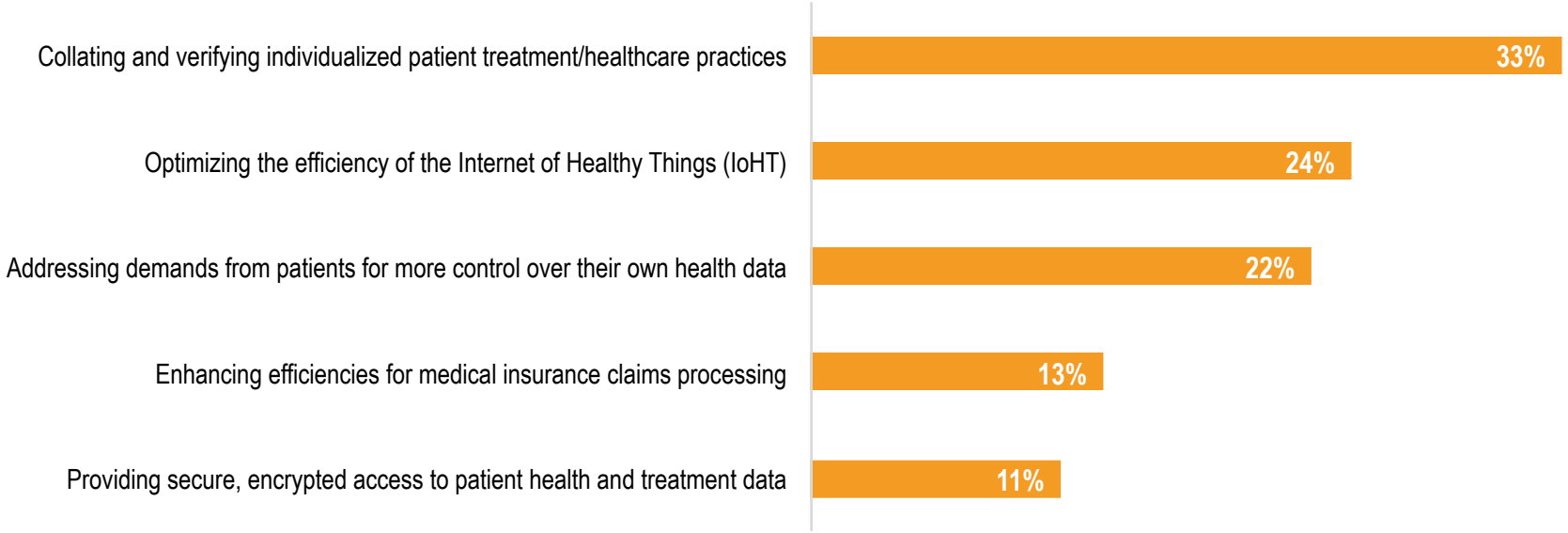
Top 1 | CX Blockchain Drivers | Healthcare



Medical record management, including individual patient data such as identity and treatment histories, is a major (Top 1) collective focus area for blockchain technology implementations among 33% of healthcare organizations that responded to the survey. Additional trends to emerge include the desire to enhance efficiencies around medical insurance claims processing and the integration of the physical and digital worlds to optimize the efficiency of the Internet of Healthy Things (IoHT).

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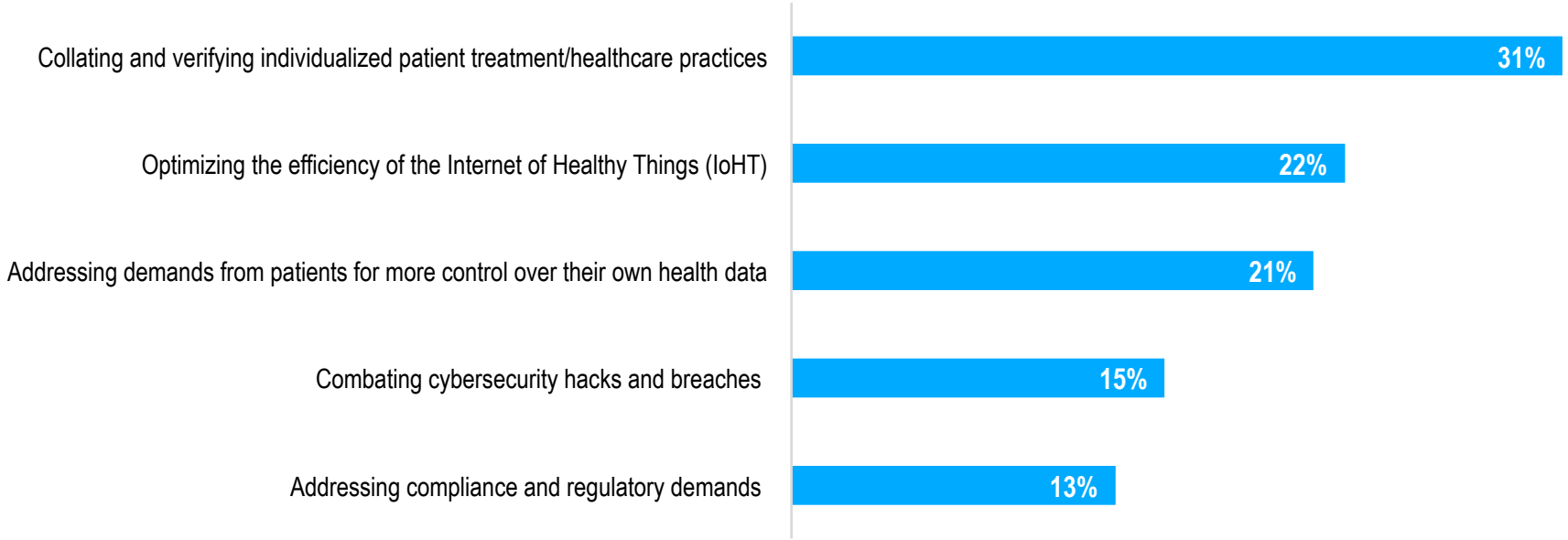
Top 2 | CX Blockchain Drivers | Healthcare



Collating and verifying individual patient treatment and healthcare records and optimizing the Internet of Healthy Things (IoHT) were also the Top 2 blockchain-enabling choices selected by healthcare respondents. Other pain point areas that blockchain can solve include addressing demands from patients for more control over their own health data (22% Top 1 and 21% Top 2 choices respectively) and combating cybersecurity hacks and breaches.

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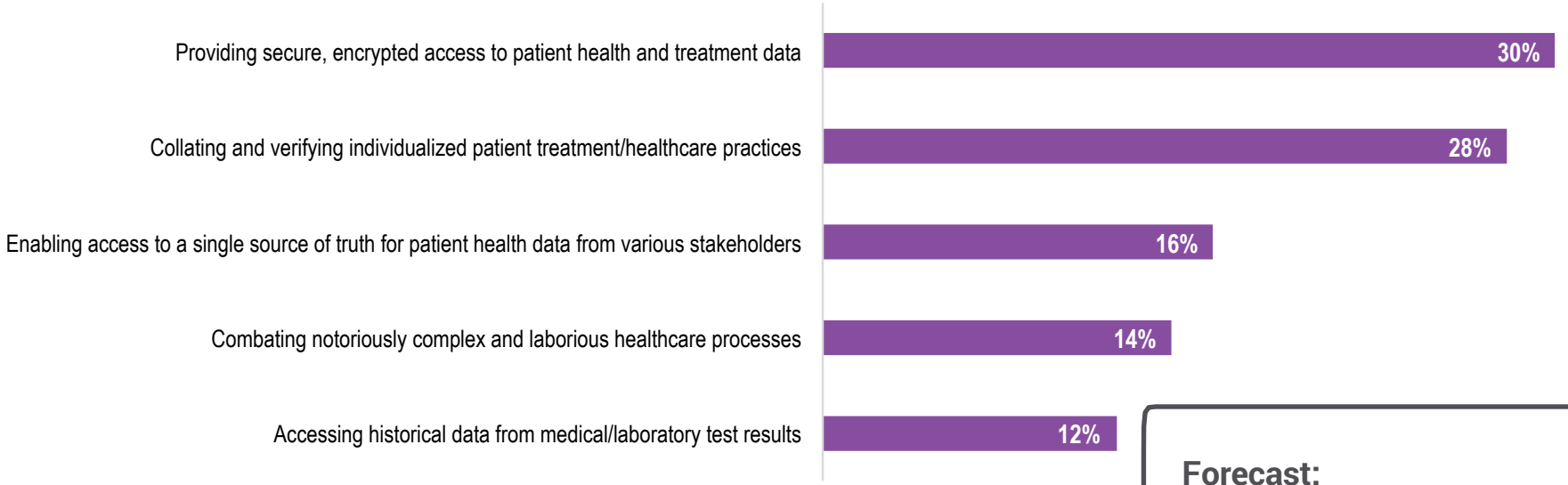
Top 3 | CX Blockchain Drivers | Healthcare



Forecast:
Improving CX for patients will remain a central focus among healthcare providers as end-users demand greater control of who can access their personal information. Blockchain will also play an increasingly pivotal role in how healthcare providers integrate intelligent industry 4.0 technologies, such as AI, into diagnostic functions by securely facilitating the accurate exchange of big data and patient records.

Blockchain + CX in insurance

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Insurance is an industry built on data collection, management and analysis. It is, therefore, unsurprising that blockchain has significant potential to transform the sector, with multiple applications across the industry value chain from underwriting to claims processing and the ability to create a more secure, efficient, cost-effective and customer-friendly experience.

By securely sharing validated and accurate client information, insurers can expedite the underwriting process, which reduces the lag time between policy inception to coverage for clients.

Easier integration into medical, government department and other third-party systems would also make the risk-rating process quicker and more accurate, which reduces the risk liability for insurers while potentially providing better premiums for lower-risk clients.

This capability would also reduce instances of unintentional material non-disclosure at the underwriting stage which is often a cause for significant dissatisfaction at claims stage when a payout is declined.

It would also satisfy compliance requirements such as KYC which would reduce back-end administration requirements and the time taken to complete due diligence processes.

Insurers can also use blockchain technology to record data and verify and pay claims. Straightforward and simple claims would also be handled by automated systems, which use smart contracts to determine if well-defined terms and conditions are met to trigger an automated payout that requires no human intervention. This capability would greatly enhance customer service by streamlining CX, while also improving organizational efficiency. Moreover, it would allow insurers to move certain captive insurance claims processes, which often involve numerous emails, attachments and phone calls across multiple times zones, to a private blockchain which would drastically reduce processing times.

Within the contact center environment, agents would benefit from instant and secure access to verified customer data and a complete insurance history in real-time to deal with queries or claims. The ability to verify data in insurance contracts in real-time would also help to reduce fraudulent claims.

Blockchain can reduce risk liability for insurers while providing better premiums for low-risk consumers with quick, accurate risk-rating processes

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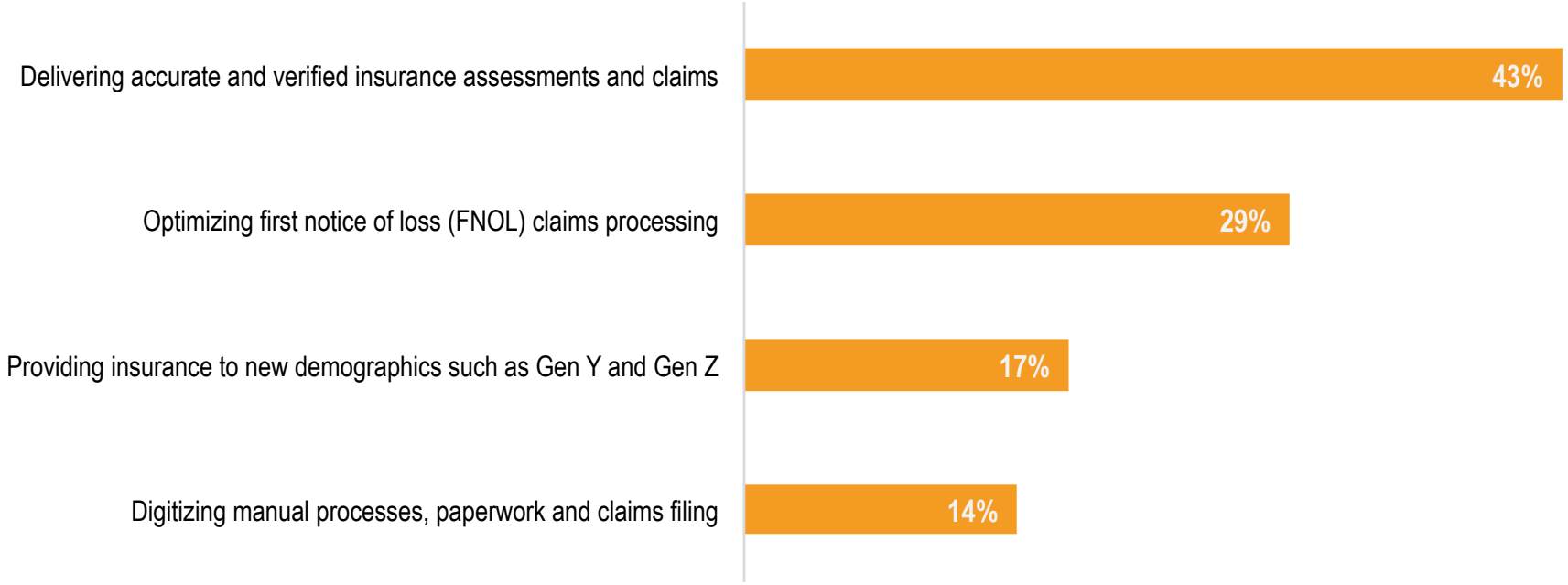
Top 1 | CX Blockchain Drivers | Insurance



The overwhelming blockchain application in the insurance sector leverages its ability to deliver accurate and verified insurance assessments and claims. Forty three percent of respondents cite this as the major challenge they are currently addressing with this technology. Additional, less prolific areas of focus include optimizing first notice of loss claims processing (29%), digitizing manual processes, paperwork and claims filing (14%) and providing insurance to new demographics such as Gen Y and Gen Z (17%).

Blockchain + CX in insurance

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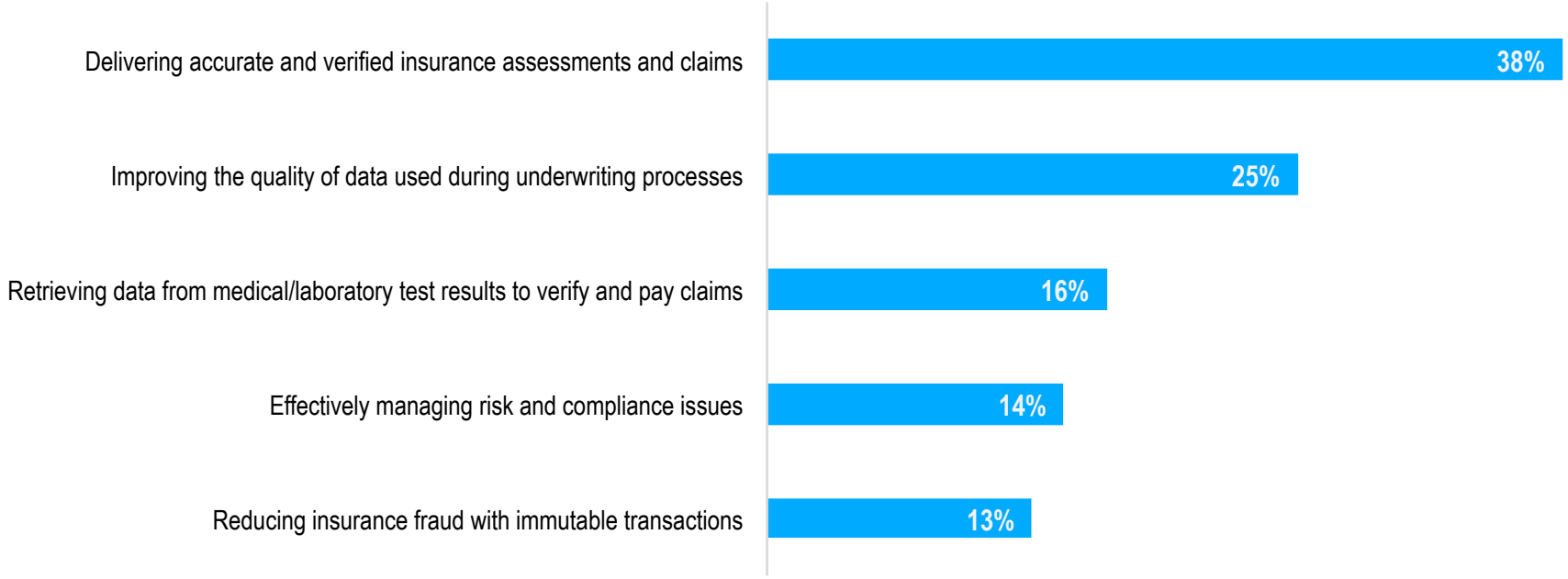
Top 2 | CX Blockchain Drivers | Insurance



Improving the quality of data used during underwriting processes (25%) and retrieving data from medical or laboratory test results to verify and pay claims (16%) were among the Top 2 blockchain drivers selected by healthcare professionals who responded to the survey. Other areas highlighted include managing risk and compliance issues (14%) and reducing fraud with immutable transactions (13%).

Blockchain + CX in insurance

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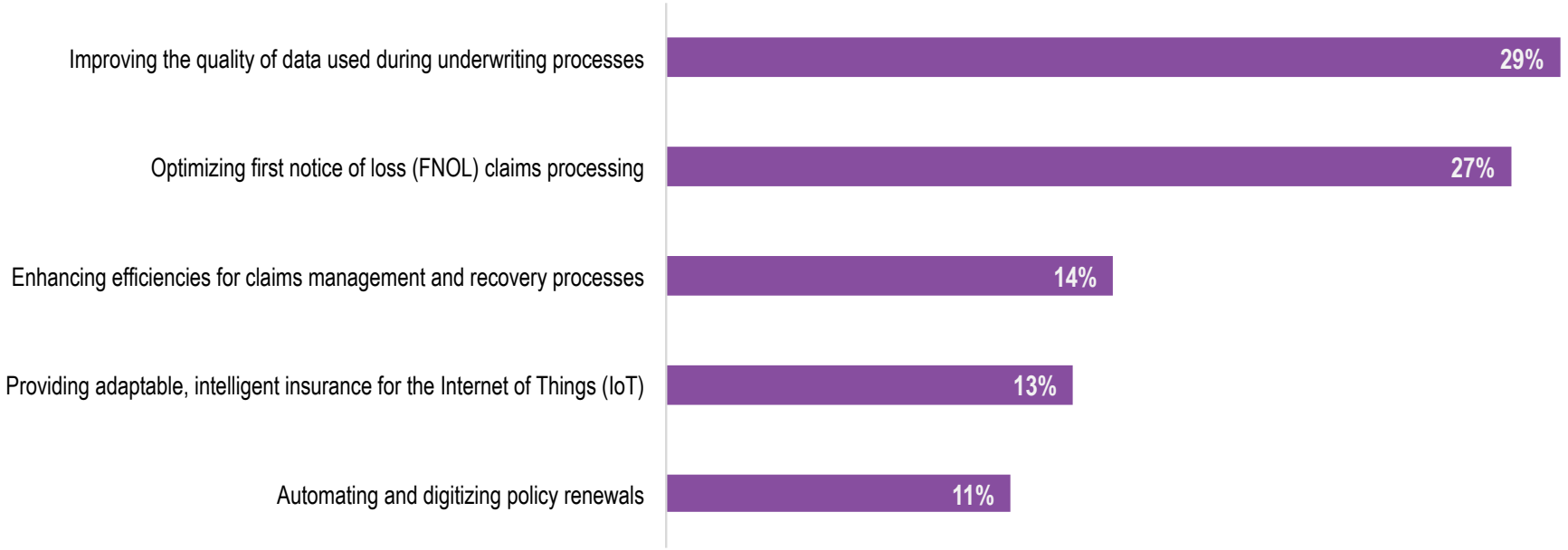
Top 3 | CX Blockchain Drivers | Insurance



Forecast:
Facilitating easier integration into disparate systems such as medical, government and other third-party databases to enhance underwriting and reduce risk liabilities will remain a major focus for insurers, but unlocking these capabilities hinges on other sectors adopting the technology. However, expect blockchain to power new insurance business models based on its ability to facilitate personalized, real-time risk assessments, rather than relying on historical data and averaged pricing.

Blockchain + CX in retail

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Successful retail operations are highly dependent on consumer trust which is an area that blockchain is uniquely equipped to support, particularly as more commerce heads online. Importantly, blockchain can shorten retail sales cycles which is a vital value proposition in the context of the modern on-demand digital economy.

Consumer expectations around payment and order processing, delivery time, ethical sourcing, transparency and authenticity are also changing. Blockchain solutions can help retailers meet these expectations to remain relevant, especially by providing end-to-end transparency on the source of origin for ingredients and products.

This functionality also assists retailers to improve product lifecycle management and limit financial losses. Blockchain solutions also improve payment processing - including mobile and cryptocurrency payments - with the ability to reduce transaction costs and make payments safer, easier and quicker. This is particularly important for e-commerce providers that must facilitate cross-border payments. The technology can also facilitate quicker approvals for finance applications.

Furthermore, blockchain supports customer requests by instantly providing contact center agents with transparent records of a customer's entire purchase and transaction history, and their related service, warranty and behavioral data to expedite issue resolution and enhance service delivery.

Importantly, the technology can also ease the burden of regulatory compliance in the face of more onerous consumer data protection and privacy regulations. Blockchain offers retailers an effective and secure means to manage a consumer's digital identity and information in one central database.

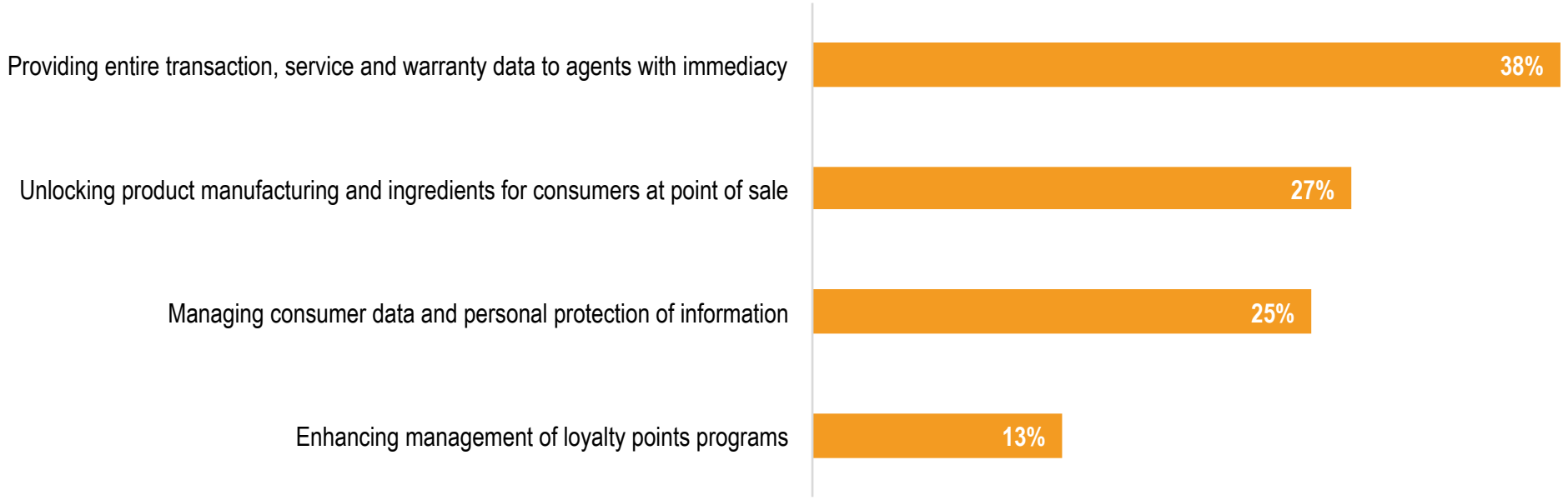
And as a distributed ledger, blockchain offers significant applications throughout the retail value chain, providing retailers with the ability to prevent counterfeiting, facilitate faster, more efficient business-to-business (B2B) payments, and streamline the supply chain with real-time monitoring to track inventory by offering immutable visibility into every point in the ecosystem.

US retail giant Walmart already leverages blockchain technology to track the freshness of its produce, while e-commerce giant Alibaba has adopted blockchain solutions for its subsidiaries to effectively track cross-border shipments and trigger payments based on smart contracts. It also uses blockchain technology in its supply chain to fight food fraud.

Blockchain + CX in retail

Real-time access to transaction, service and warranty data emerged as the leading driver (38%) of blockchain in the retail sector. This capability would significantly enhance an agent's efficiency while also improving first-call resolution rates to enhance CX and customer satisfaction. This fundamental theme of access to validated, accurate information carries through to other drivers, such as unlocking product manufacturing and ingredients for consumers at point of sale (27%) and managing consumer data and personal protection of information (25%).

Top 1 | CX Blockchain Drivers | Retail



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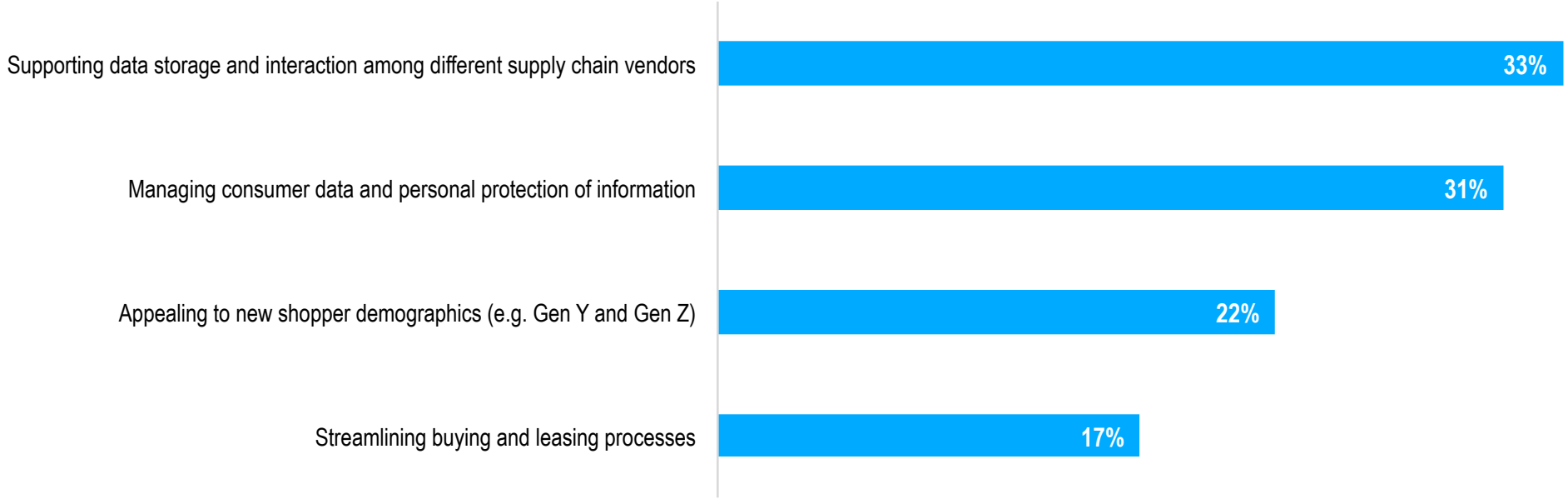
Retailers also place emphasis on supporting good data storage and interaction among different supply chain vendors (33%) while appealing to new shopper demographics (22%) and streamlining buying and leasing processes (17%) which were all Top 2 blockchain drivers identified by respondents to the survey.

Top 2 | CX Blockchain Drivers | Retail



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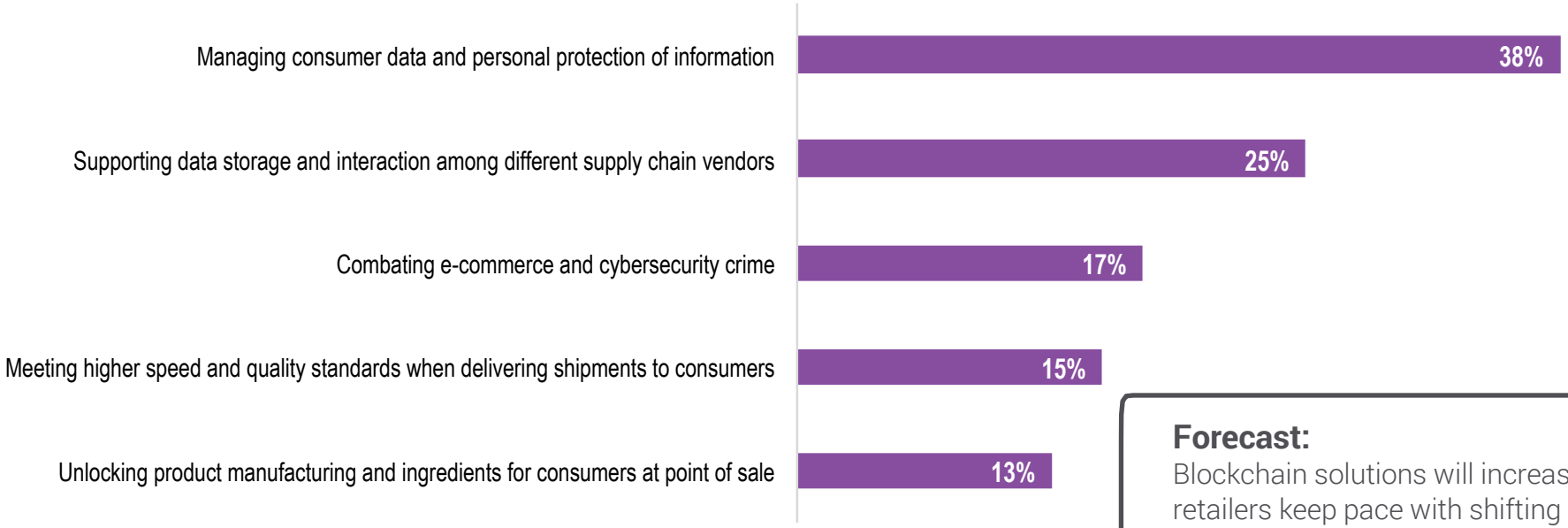
Top 3 | CX Blockchain Drivers | Retail



Forecast:
Blockchain solutions will increasingly help retailers keep pace with shifting consumer expectations around payment and order processing and delivery time, which is particularly relevant for e-commerce providers. Creating trust and brand loyalty through greater transparency around ethical and sustainable sourcing will also drive future technology adoption and development initiatives in the retail sector.

Blockchain + CX in supply chain

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Blockchain technology offers significant potential to transform the supply chain and logistics industry by simplifying what is currently an extremely complex process.

Modern supply chains are characterized by numerous stages that span multiple local and international locations and, therefore, require a multitude of invoices and payments (including cross-border payments).

Blockchain's main application in this regard is its ability to facilitate more efficient, predictable and secure information exchange to track goods from the source to the end user with greater ease and transparency, with the ability to also effectively manage after-sales support.

In this regard, a blockchain-driven platform can significantly reduce the cost and complexity of transacting by confirming payments and automating order processing and fulfillment by facilitating the process and managing multiple parties across a single network.

The transparency that the technology creates in the supply chain negates the need for an intermediary to manage the administrative complexities around paperwork processing, which can substantially enhance business efficiency. It also ensures customers can easily track their product at every point throughout the supply-chain ecosystem.

In a similar way, blockchain solutions provide visibility into material or ingredient sourcing and ownership transfer. This traceability can significantly improve compliance requirements and provides consumers with transparency, which creates trust. This transparency also allows consumers to support companies that share their values of ethical or organic sourcing, environmental stewardship or responsible and sustainable manufacturing.

Blockchain's foremost supply chain application is its ability to facilitate more efficient, predictable and secure information exchange to track goods from the source to the end user. Both BHP Billiton and De Beers – two of the world's largest mineral resources firms – apply blockchain technology to record data throughout the mining process and track the movement of resources through the supply chain.

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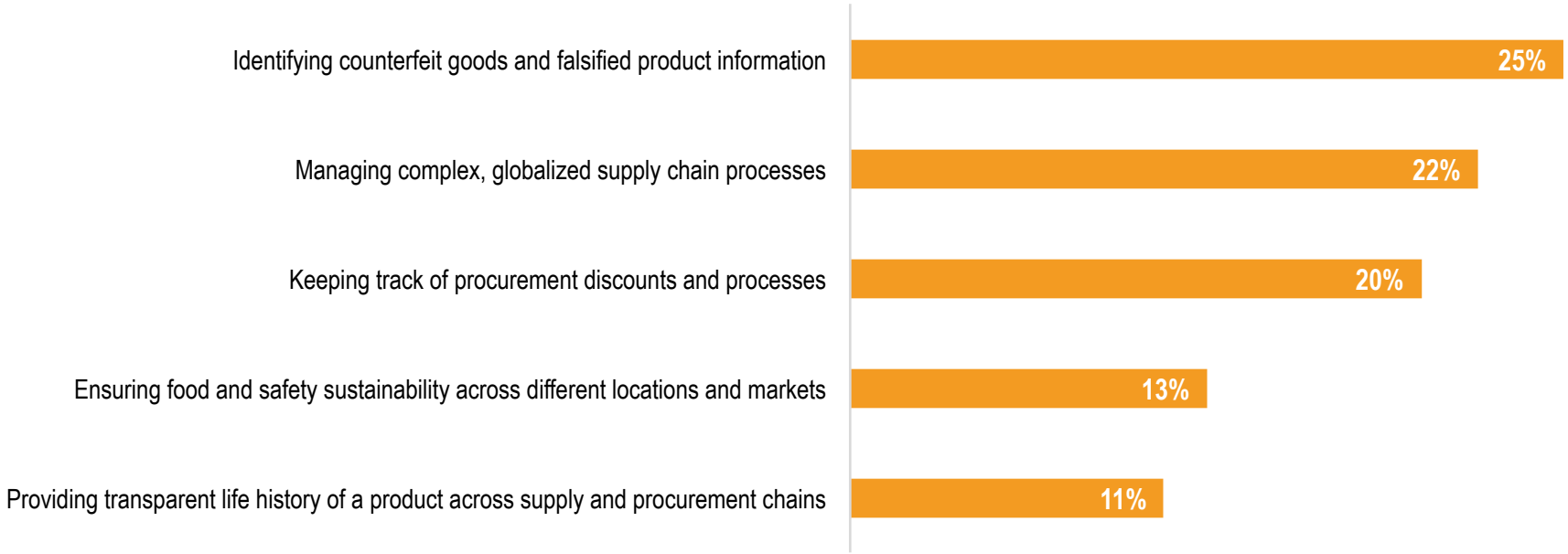
Top 1 | CX Blockchain Drivers | Supply Chain



The complex world of supply chain management poses a host of challenges for operators, as evidenced in the survey findings. Issues such as identifying counterfeit goods and falsified product information (25%); managing complex, globalized supply chain processes (22%); keeping track of procurement discounts and processes (20%); ensuring food and safety sustainability across different locations and markets (13%) and providing transparent life histories of products (11%) were highlighted as top priorities by supply chain managers.

Blockchain + CX in supply chain and logistics

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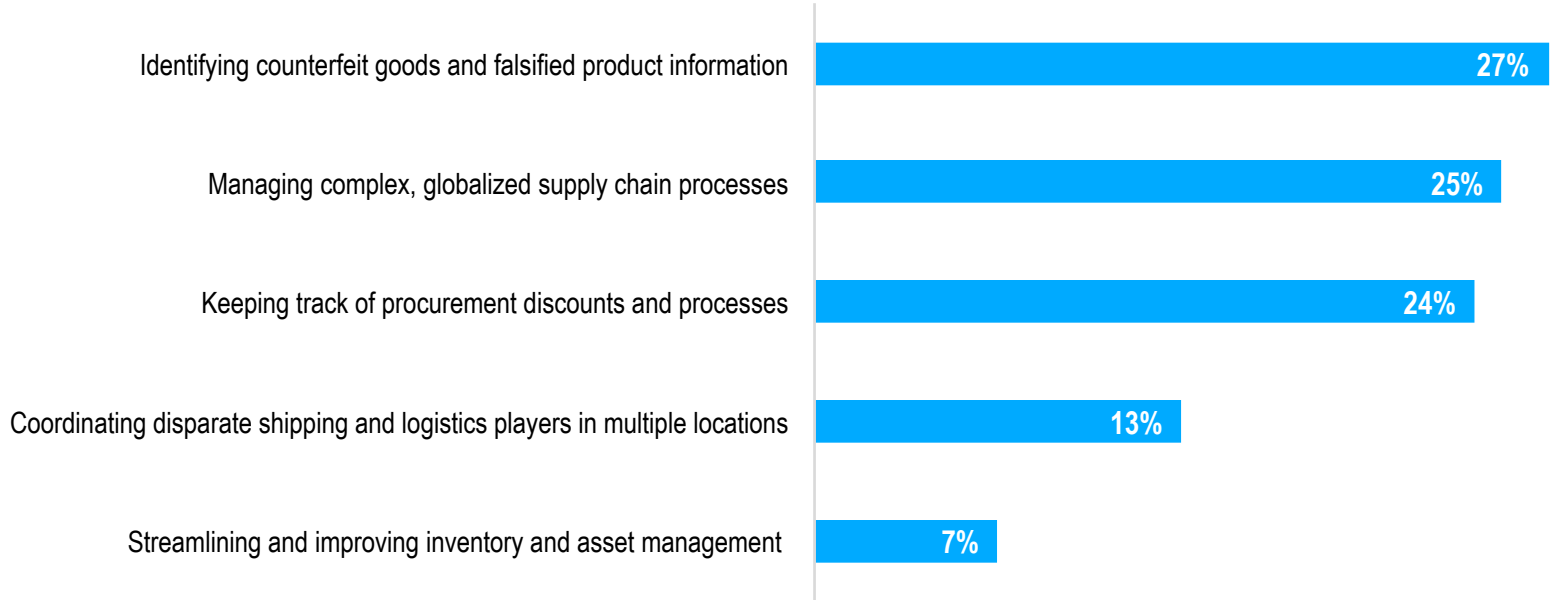
Top 2 | CX Blockchain Drivers | Supply Chain



Co-ordinating global shipments of goods and disparate logistics players in multiple locations was identified as a Top 2 blockchain driver by 13% of respondents, while 7% indicated that they will use blockchain to streamline and improve inventory and asset management.

Blockchain + CX in supply chain and logistics

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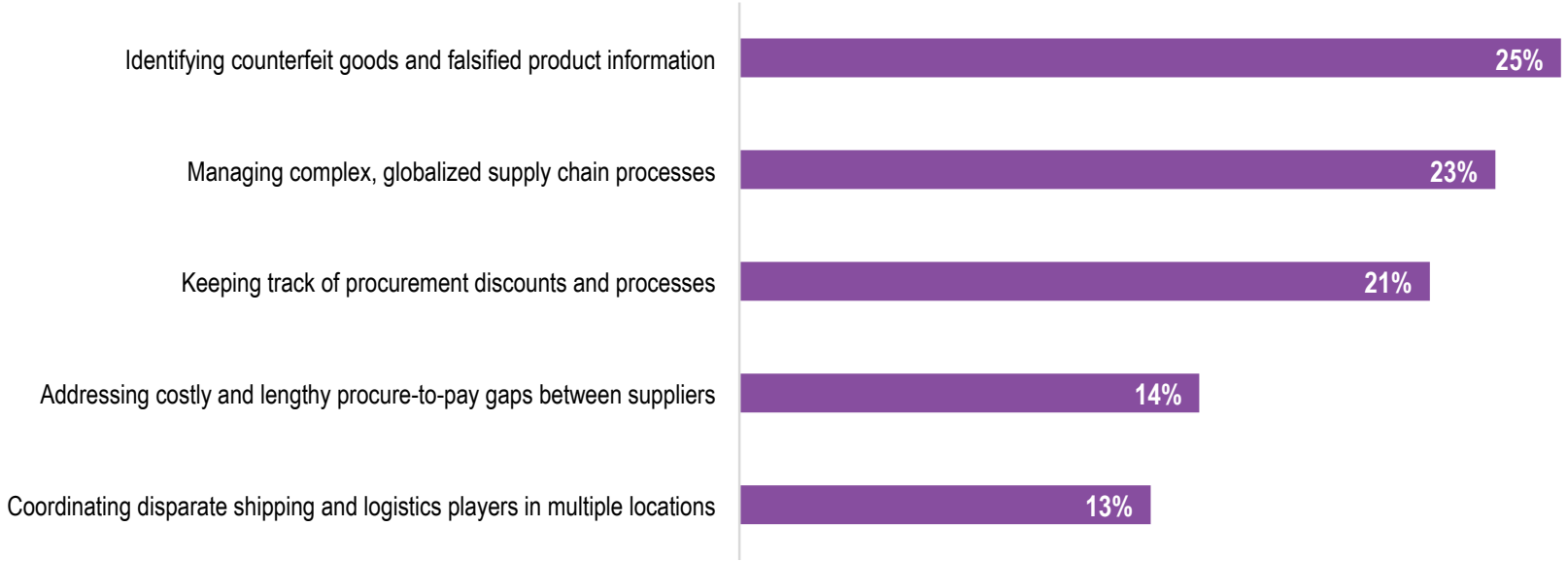
Top 3 | CX Blockchain Drivers | Supply Chain



Forecast:
Supply chain and logistics providers will increasingly look to blockchain technology to support collaboration and transparency in this highly fragmented industry vertical as more consumers demand to know where goods and products are sourced. Providers in this sector could save significantly by reducing inefficiencies created through electronic data interchange and paper-based systems which suggests a major focus will remain on addressing onerous administrative processes.

Blockchain + CX in telecoms

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As communication preferences evolve due to digital technology's impact, Communication Services Providers (CSP) are grappling with the impact of a loss in traditional voice and data revenue streams and rising subscriber churn due to dissatisfaction and rising market competition.

The telecommunications industry, therefore, requires solutions that enable it to adapt to these shifting end-user preferences. This necessitates investing in cloud platforms to deliver new digital services, including over-the-top (OTT) content, SaaS applications, and cloud-based unified communication services.

Blockchain technology is uniquely able to handle heterogeneous access nodes and diverse access mechanisms to enable secure and error-free P2P connectivity across various mobile devices and Internet of Things (IoT) end-points within cost-efficient self-managed networks.

Blockchain can also support the telecommunications value chain by more efficiently provisioning the necessary network infrastructure and connectivity for voice, data, media and other related services by facilitating efficient, secure and cost effective P2P connectivity to provide a seamless customer experience.

Facilitating these complex transactions and interactions between all parties remains a challenge within the industry, but finding a workable solution is imperative to foster trust through security and transparency.

The secure, distributed nature of the blockchain will also elevate data security and integrity through end-user and device authentication and identity management services and can reduce instances of fraud through better detection and prevention.

Blockchain solutions also give consumers control over their digital identity, empowering them to share only relevant information with OTT platform and service providers, with the ability to control which providers gain access to their personal information.

Creating decentralized cloud communication network on the blockchain can also boost infrastructure and resource utilization among CSPs. This will create cost efficiencies and can better serve customers with more efficient, higher-quality ubiquitous services and network coverage.

Global telco giants such as AT&T and T-Mobile already incorporate blockchain technology into their operations in various capacities. AT&T uses a blockchain-based solution to track its device supply chain which ensures customers receive a replacement phone while the repair process is tracked and expedited through the system. AT&T also plans to introduce smart contracts into its IoT offering.

Blockchain + CX in telecoms

Within the telecoms sector, blockchain will be used to support data storage and interaction among various IoT devices (27%) while seeking to improve data security, integrity, and inspection across disparate systems, devices and databases (25%). Fortifying existing revenue bases by enhancing customer loyalty with personalized, real-time content and promotions for consumers (22%) while also creating future revenue streams through new services (15%) are other major business drivers.

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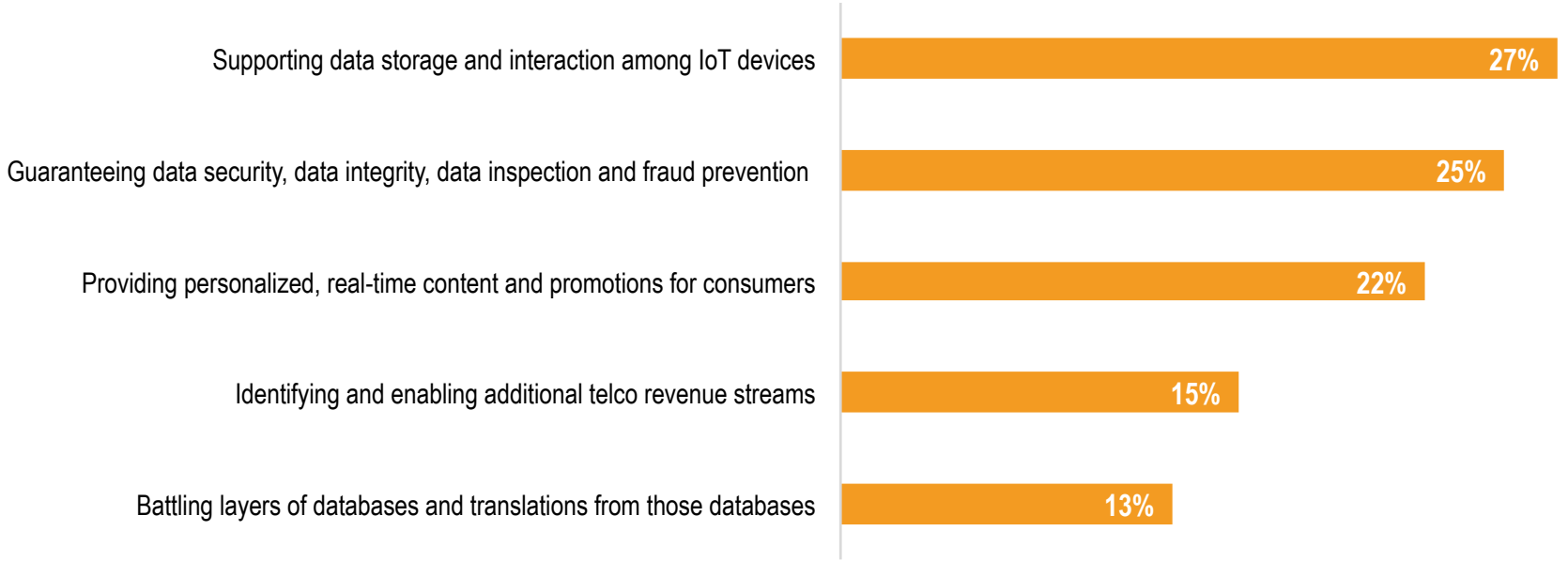
Top 1 | CX Blockchain Drivers | Telecoms



Blockchain + CX in telecoms

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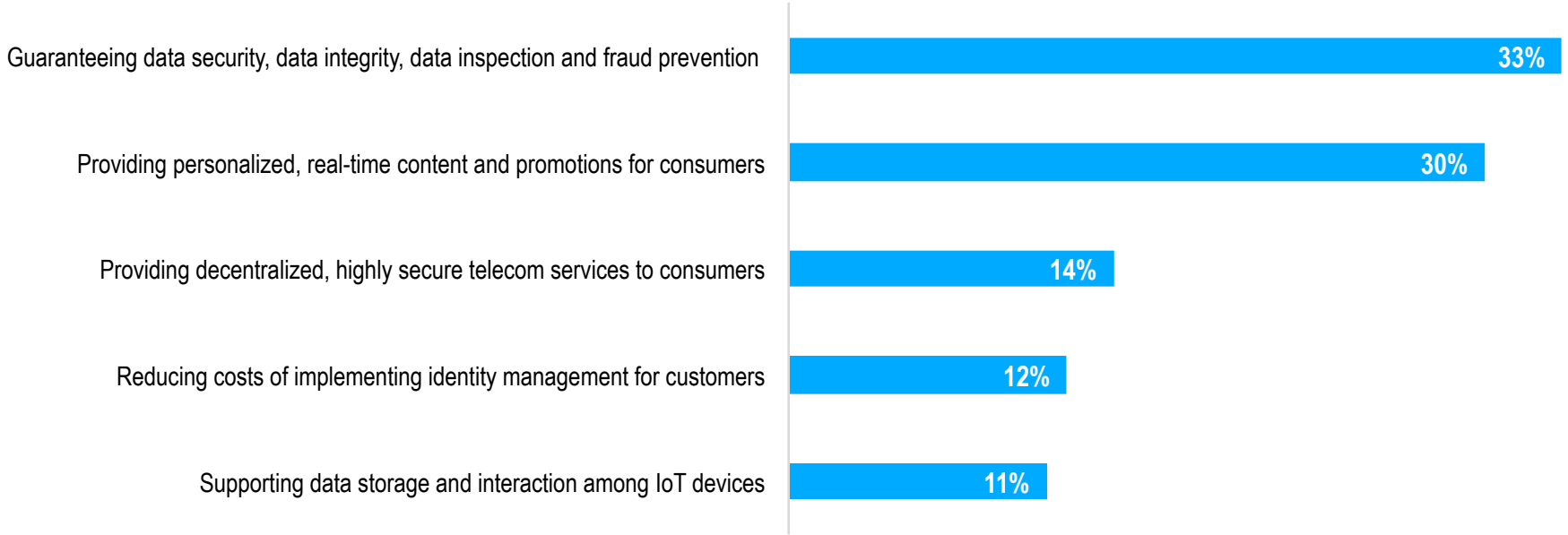
Telco providers will also use blockchain to provide decentralized, highly secure telecom services to consumers (14%) while reducing costs of implementing identity management (12%).

Top 2 | CX Blockchain Drivers | Telecoms



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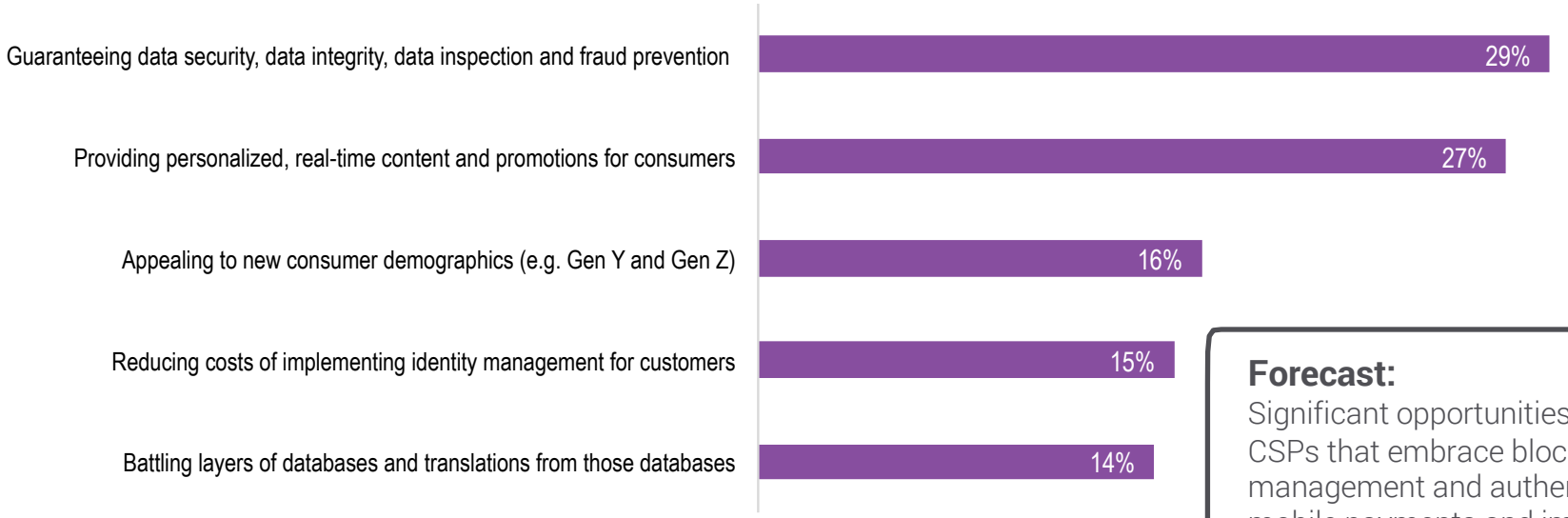
Top 3 | CX Blockchain Drivers | Telecoms



Forecast:
Significant opportunities lie on the horizon for CSPs that embrace blockchain to enhance identity management and authentication, facilitate secure mobile payments and improve voice transaction settlement, among others. CSPs could also displace traditional centralized IoT cloud infrastructures by establishing a P2P communication model that allows for the lower-cost processing of billions of transactions between IoT devices, which position them as the trusted authorities for digital identity.

Acknowledgements

Shelli A. Ryan, APR, Fellow PRSA
Founder and Principal, The CX Blockchain Institute
Shelli Ryan founded The CX Blockchain Institute to provide BPOs and the entire CX industry access to an innovative, leading edge to revolutionize customer service delivery through blockchain. She is hired by mid-market and emerging BPOs and CX technology companies to lead multidiscipline teams in the Americas, Europe, and Asia-Pacific, providing critical growth strategies and services. With a successful 31 year track record as a strong entrepreneur and recognized leader in today's international business environment, she is known for her ability to refine, focus and retool strategic initiatives, aimed at growth, sustainability and empowerment.

Steve Weston
Principal, The CX Blockchain Institute
Steve is a principal of The CX Blockchain Institute and is responsible for leading the effort to operationalize blockchain the CX industry. He leads a team of operational experts who identify opportunities for Blockchain, conduct operational transformation audits, and deploy and test customized Blockchain solutions. Steve is a 30+ year BPO industry leader with executive experience with leading BPO companies and on transformational client solutions. His company SKWeston & Company, LLC. provides global consulting in developing Operational Strategic Plans to Fortune 100/500 companies along with BPOs.

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Our survey findings affirm what most business executives already know: Blockchain is a massively disruptive technology that is reshaping entire industries. Applications are also rapidly emerging beyond mere data storage, verification and distribution that enhance CX.

The bottom line is that blockchain technology works if implemented with defined and targeted transformational strategies. The challenge business leaders now face is determining how best to implement blockchain in their business and how to make it work to maximize its impact.

Those that act now will realize a significant early-mover advantage as our survey findings suggest many companies remain in the strategic planning or proof-of-concept adoption stages. Conversely, those that fail to act could be left behind as their competitors leverage the technology to gain a competitive advantage, be it through improved margins, better service and CX delivery, enhanced processing capabilities or new, innovative business models.

The CX Blockchain Institute