How will blockchain technology impact HR and the world of work?

Experts in technology and HR come together to explore blockchain's potential

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Foreword

Blockchain is a technology that's widely discussed but perhaps less widely understood. Technically, it's a distributed ledger that allows value to be exchanged securely, transparently and without risk of tampering. It's also a technology that creates trust through consensus, by ensuring that all parties authorised to access the blockchain agree that any additions made to it are valid. As a result, it removes the need for a central trusted counterparty in transactions.

These attributes mean blockchain is revolutionising the way we exchange value on online – in much the same way as the internet itself revolutionised the way we exchange information. But what implications does it have for the future of the HR functions and the wider world of work? And how can organisations make the most of blockchain's potential in areas like recruitment, talent management and skills development, while avoiding the risks that can arise with early adoption of any technology?

To ask, discuss and answer these questions and more, PwC convened an expert round table consisting of HR leaders from across various industries and blockchain technology specialists. The debate was intriguing and wide-ranging, and this paper pulls together the highlights and key themes.

The overarching message was clear: blockchain's impact on HR and the workplace will be transformational. And not just for companies, but also for the individuals who work for them, whether as traditional employees or as part of the growing pool of 'talent-on-demand'. While the full impacts of blockchain will take time to emerge, participants at our debate felt companies should begin their journey of blockchain discovery now – or face a scramble to catch up in years to come.

Chris Murray
PwC Partner and Leader of PwC's Global HR Technology network

Blockchain's potential to transform business is already manifesting itself in industries such as insurance. But what could the technology do for HR? We brought together some of the UK's leading blockchain experts with HR leaders to explore its possible impacts.

Key conclusions

- While disruption from blockchain is more commonly associated with areas like payments and capital markets, its effects on HR will be profound and pervasive – not least because of its impacts on talent and skills requirements.

- Possible usages of blockchain meriting further exploration include:

  - Verifying and assessing the education, skills and performance of potential recruits – enabling those recruits to be allocated to the most appropriate roles.

  - In turn, giving people a comprehensive, trustworthy blockchain-based record of their education, skills, training and workplace performance.

  - Managing cross-border payments and employee mobility, including international expenses and tax liabilities.

  - Boosting productivity, such as automating and reducing the burden of routine, data-heavy processes like VAT administration and payroll.

  - Enhancing fraud prevention and cybersecurity in HR, including both employees and contractors.

- The processes most appropriate for transformation through blockchain are likely to be those that are slow, cumbersome, labour-intensive and expensive due to the need for significant data collection and third-party verification.

- Rather than focusing on the intricacies of the technology itself, HR functions should consider the benefits it delivers – such as trustworthy verification of counterparties' identity – and how these can help with problems/inefficiencies in their existing operations.

- The race to seize competitive advantage though blockchain has begun – and HR functions must join it now, or risk being left behind.

The expert panel

- Anthony Bruce, UK Head of Human Resource Management, PwC

- Didier Charreton, Anglo American, Group HRD

- Seamus Cushley, Fintech and Digital director at PwC and former VP at Bitnet Technologies

- David Lyford-Smith, IT & The Profession, ICAEW

- Laetitia Lynn, Director – Head of Tax Communication Strategy, PwC

- Chris Murray, Partner in PwC's HR Technology practice, and Leader of PwC's Global HR Technology network (chair)

- Alistair Milnes, Gazprom, General Manager, Global HR

- Roxanne Morison, Senior Policy Adviser – Digital, CBI

- John Nash, Experian, Alliance Account Director

- Phillippa O'Connor, Partner in PwC's Human Resource Services group

- Katie Scott, reporter, Employee Benefits

- Patrick Spens, PwC's Blockchain leader and member of the Whitechapel Think Tank steering group

- Alex Wilson, UK People & Organisation Leader, PwC

- Graham Wyllie, Global Head of Markets for the PwC Global Mobility practice
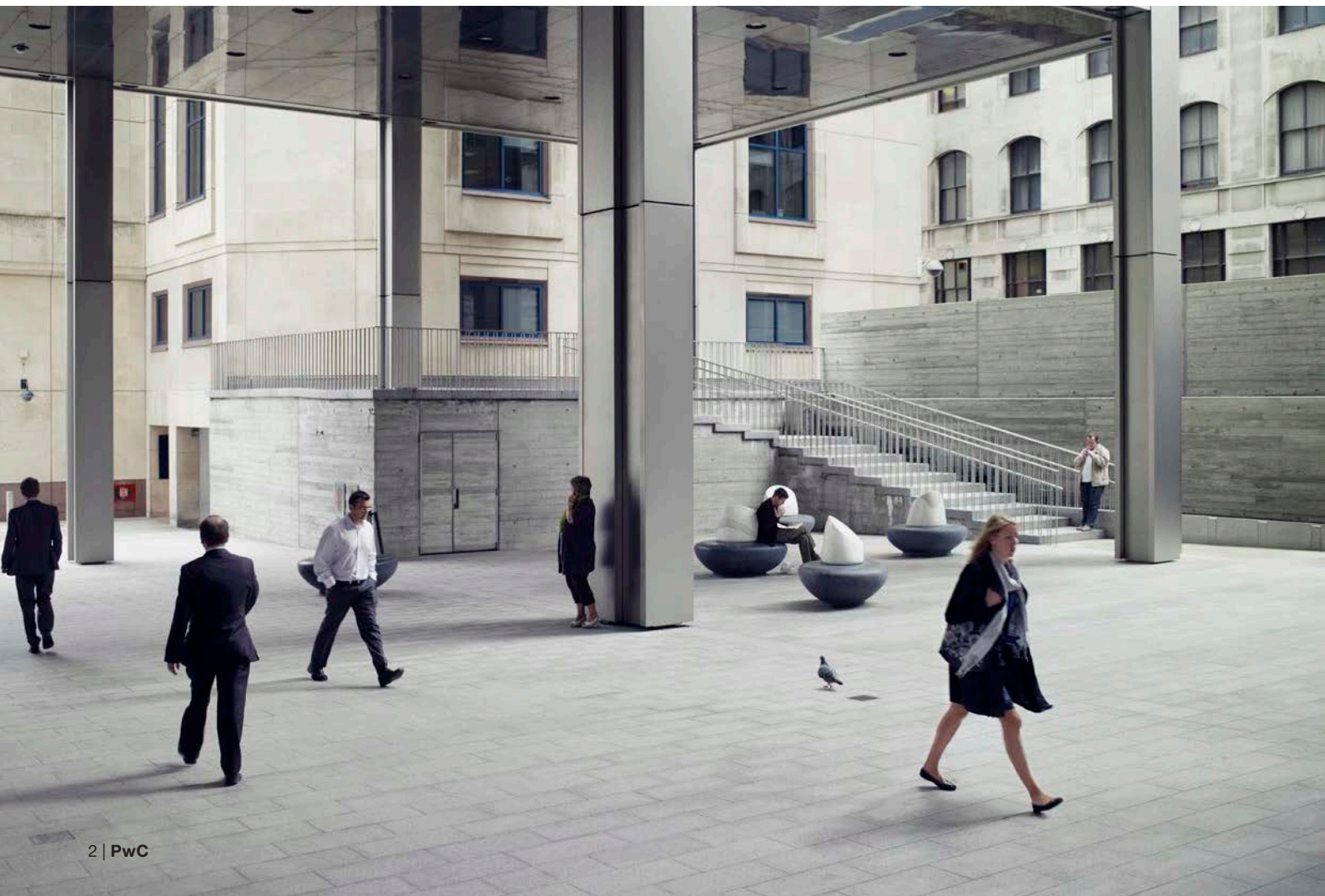
Key themes of the debate

Blockchain: from exchanging information to exchanging value

At root, blockchain technology is a 'trust protocol' that removes the need for a third-party intermediary to confirm who the counterparties are and validate the completion of the transaction when value is being exchanged. However, what really matters is not the technology itself, but what it can deliver. In the field of HR and the workplace, its implications are game-changing – both for organisations themselves and the individuals who work for them.

How blockchain technology works isn't actually that important. What matters is that it brings the ability to establish trust between two machines, people or entities, and then transfer value securely and transparently between them.
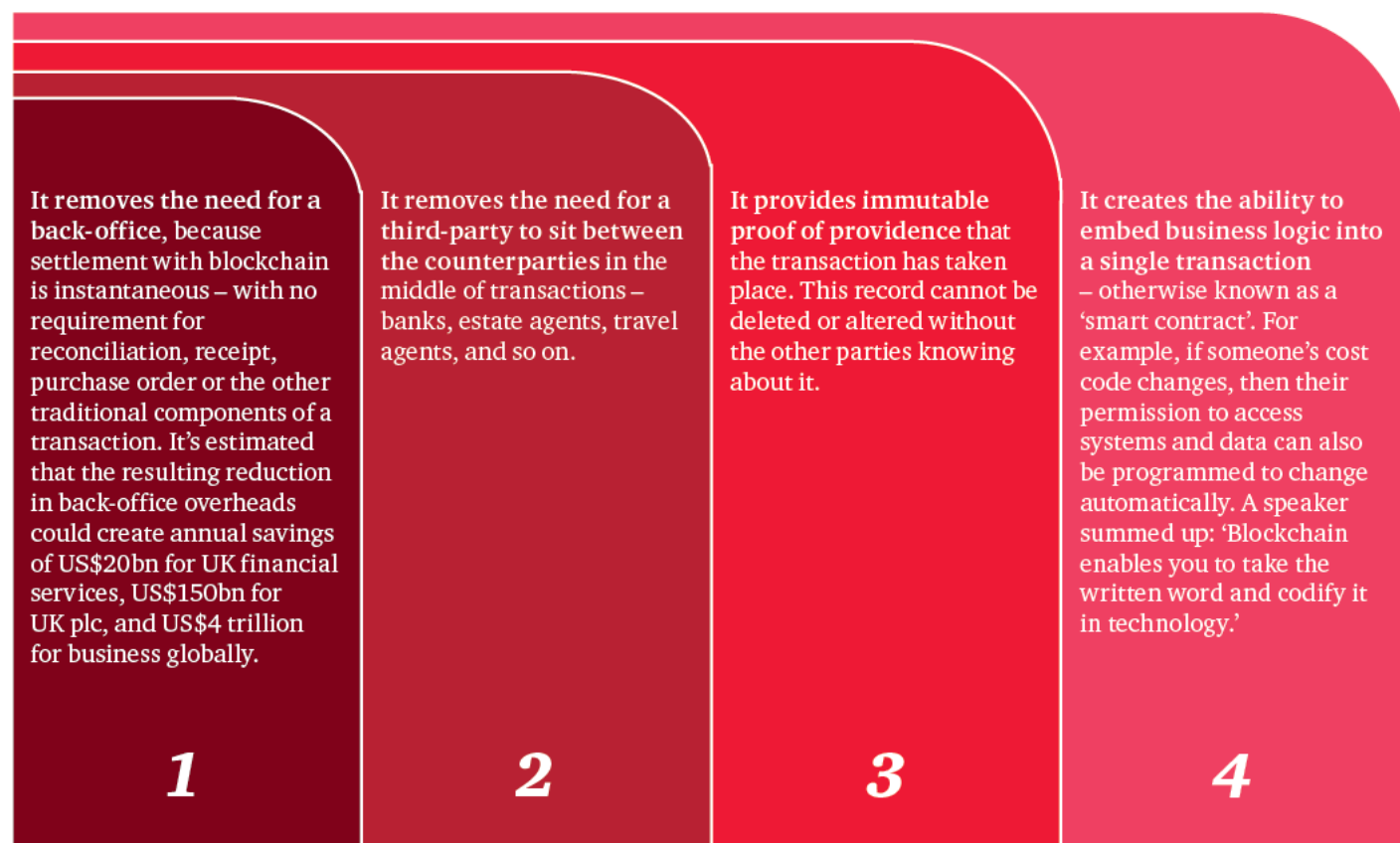
A look at the historical context underlines why blockchain represents such a seismic shift in the business landscape. Twenty-five years ago, a round-table discussion on the latest disruptive technology for business would probably have focused on TCP/IP (Transmission Control Protocol/Internet Protocol) – the technology that underpins the internet and enables the direct exchange of information with anybody in the world.

Nine years ago, the open source code for blockchain was released, opening the way to the direct exchange of value with anybody in the world. Today, this ground-breaking capability means blockchain is already disrupting many industries, with sectors such as insurance and payments in the front line. But as blockchain-driven disruption gains momentum and scale, it's clear that its effects on HR and the workplace will be pervasive across industries and society as a whole, shaped by the four ways in which it affects value exchange (see information panel).

Four ways blockchain reshapes the landscape of value exchange

It removes the need for a back-office, because settlement with blockchain is instantaneous – with no requirement for reconciliation, receipt, purchase order or the other traditional components of a transaction. It's estimated that the resulting reduction in back-office overheads could create annual savings of US$20bn for UK financial services, US$150bn for UK plc, and US$4 trillion for business globally.

1

It removes the need for a third-party to sit between the counterparties in the middle of transactions – banks, estate agents, travel agents, and so on.

2

It provides immutable proof of providence that the transaction has taken place. This record cannot be deleted or altered without the other parties knowing about it.

3

It creates the ability to embed business logic into a single transaction – otherwise known as a 'smart contract'. For example, if someone's cost code changes, then their permission to access systems and data can also be programmed to change automatically. A speaker summed up: 'Blockchain enables you to take the written word and codify it in technology.'

4

For businesses, the beauty of blockchain is that it removes the necessity to pay someone else to do reconciliation, and you get certainty and transparency around the transaction.

Using consensus to establish and distribute trust

A key focus of the discussion was how blockchain establishes trust – and the answer is that it does this through consensus. Blockchain records cannot be deleted or overwritten, but only added to. When a new block is added, the change is visible to everyone with permission to access the blockchain – meaning that if they don't agree with it, it will not be accepted as fact. This means no single actor can make change alone, and consensus about the truth drives transparency and trust.

A further impact of blockchain is that trust becomes decentralised. Historically, trust was community-based, but more recently it has become centralised with banks and other institutions. With blockchain, trust can return to the individual level, with people and businesses able to trust each without the need for a central institution verifying their respective identities.

Today's systems are all about copied and cloned data. With blockchain, it's the same data.

The starting-point: seek out HR pain-points to address

Zeroing in on the potential of blockchain for HR, the view round the table was that the first step is to start with the business rather than the technology, and seek out existing problems to address. 'What are the business processes that HR goes through that are painful, and involve a lot of people, shared data, time and risk?' asked a panel member. 'If you have processes like that, then those are the places to start.'

Across all potential areas, it was felt that the blockchain's impacts would be magnified through ongoing convergence with other emerging technologies like artificial intelligence (AI), machine learning, and augmented/virtual reality (AR/VR). During the discussion, four areas of greatest impact for blockchain came to the fore: cross-border payments and mobility, talent sourcing and management, productivity gains, and cyber security/fraud prevention.

Today, business processes and data are divorced from each other. With blockchain they're unified.

Talent: the blockchain-based 'value passport' will benefit both employers and individuals

Blockchain was also seen as having major potential on both sides of the employment relationship, springing from the ability for people to maintain – and control access to – a comprehensive, trustworthy blockchain-based record of their education, skills, training and workplace performance. By providing potential employers with access to this 'value passport', individuals would be able to turn their skills, training and experience into genuine value in the employment market. And by applying analytics and artificial intelligence to the data, companies would be able to match individuals to roles much more accurately and effectively. This could be particularly relevant, as skills requirements change in light of the fourth industrial revolution.

Several speakers highlighted blockchain's ability to support behavioural and cultural changes under way in organisations and the workforce. The benefits of the individual's highly portable and up-to-date 'value passport' will become all the greater – both to themselves and employers – as the trend towards the gig economy continues and younger people change jobs more frequently or opt for portfolio careers. Also, with the younger generation generally being more relaxed than their predecessors about sharing personal information, blockchain provides them with an opportunity to do this in a more secure and trustworthy way.

We track potential employees externally for four or five years before we approach them...If we could get people's verified data on people's existing performance with their existing employers, it would be a game-changer.

Targeting productivity gains

Blockchain's positive impact on workforce productivity was a recurrent theme of the discussion, with benefits anticipated for companies of all sizes. It was felt that the enhanced ability to match people's skills and performance to jobs would provide an uplift to productivity across the UK, which currently lags behind many other OECD countries. "Greater clarity on people's skills and experience should help us put people into the right places to be productive," commented a panellist.

Others highlighted that small and medium-sized enterprises (SMEs) may benefit particularly. The burden of finding and recruiting the right talent is especially heavy for smaller businesses, and anything that can help them do this more

effectively and efficiently will boost their productivity. Further high-potential targets for blockchain applications include areas like payroll and VAT, where reducing the administrative burden on SMEs could help them focus more on serving customers and growing their businesses.

Cross-border payments and mobility

Initial steps into blockchain for multinational businesses may include creating their own blockchain-based corporate currencies or 'coins' that they can use to transfer value across their business globally and transact with their supply chains, free of the friction and costs of third-party reconciliation. Over time, central banks will also become involved, introducing their own blockchain-based means of exchange to support convertibility into 'official' currencies.

However, this is just the tip of the iceberg of opportunity – with international workforces presenting many potential applications for blockchain. Areas highlighted during the discussion included cross-border expenses, where today's complex, cumbersome multi-signature processes systems could be redefined using blockchain, with embedded rules and logic on spending levels. Another high-potential area is cross-border mobility, given the significant data collection required to ensure employees remain compliant with the tax rules across different jurisdictions. This was described as an area 'ripe for verification through blockchain.'

For international expenses, you could embed restrictions on how much employees can spend and where – with lists of approved suppliers, hotels and so on.

Fraud prevention, cyber security and data protection

Another area of benefit for HR – one shared with other areas of the business – is enhanced cyber security and resistance to fraud. Given HR's involvement in high-volume financial transactions and responsibility for a wealth of sensitive personal data, it's a function where blockchain's benefits in these areas are especially important. Blockchain's use of consensus to establish facts helps to squeeze out fraud. And given that cyber risks can spring from an underlying lack of transparency in systems and data, the threat of cyberattacks is a further challenge that blockchain can help to address. Again, this may be of particular help to SMEs, many of whom who are underprepared for cyber threats. Blockchain could also help companies automatically limit employees' access to information, and aid compliance with the General Data Protection Regulation (GDPR).

Conclusion
Time to seek out use cases

There was agreement around the table that blockchain will come to pervade business, bringing huge implications for HR and the workforce. There was also a sense that technology has eroded trust in recent years, especially with the growth of cyber risks, and that blockchain presents a way to use technology to win back that lost trust.

The prize is so great that blockchain will inevitably happen – and will ultimately become invisible because it's so frictionless.

The consensus was that, if they haven't done so already, HR functions need to start to include blockchain alongside other emerging technologies in formulating their digital strategy. Assessing the potential of blockchain to enhance efficiency and effectiveness should be considered alongside the broader implications for the future of work. Having identified and unpacked the problems to be solved, a good next step is to start to create prototypes that can develop into proofs of concepts (POCs) that will target the most valuable use cases.

What was clear from the debate is that blockchain is a technology whose time has come in HR, and that the scope and scale of its implications mean it cannot be ignored. The race to seize competitive advantage though blockchain has begun – and HR functions must join it now, or risk being left behind.