Chapter 9

Conclusion and Thoughts about the Future

§ 9:1 Summary of important points

- There is no need to panic about implementing blockchain technology, but now is the time to begin understanding what blockchain technology does well and what it doesn't do well.
- For some industries, such as financial services and the supply chain industry, blockchain based solutions will likely appear sooner than many other industries.
- For blockchain technology to be fully utilized, it is necessary to educate people on the nature of the technology.
- Developers and companies working on blockchain solutions need to actively engage policy makers in order to ensure proper regulation and useful legislation.

§ 9:2 Don't panic, but start planning

When discussing blockchain technology with clients and others, one of the most commonly asked questions is "when will the actual use of this technology become widespread?" It's a good question because it gets to the real concern the person asking has—when do I need to worry about this stuff. In some respects, the technology is already in widespread use. There is no denying that Bitcoin is a real force in payments. With a market cap of several billion dollars and numerous well-funded exchanges, the question of whether Bitcoin will be successful has already been answered. Even if Bitcoin is ultimately replaced, it will have been a success. To conclude otherwise, is to suggest that Ford's Model T was a failure because they are no longer in production.

Of course, most businesses and industries can continue to be successful without incorporating Bitcoin into their busi-

ness model. Besides, much of this book is devoted to use cases that go beyond a payment service or digital currency. So when people ask the above question, they are really concerned about those blockchain 2.0 implementations. Their concern is that competitors will implement these technologies more rapidly and leave them at a competitive disadvantage. On the other hand, no one wants to spend resources on something that turns out to be nothing more than empty promises. In light of the companies now devoting significant resources to these technologies, such as IBM, Microsoft, and Intel, it's hard to believe there "isn't something to this."

The biggest question then is not if, but when, blockchain resources will move from the development and testing phase to production ready, enterprise level solutions. Unfortunately, any predictions on that front on our part would be pure speculation. What we can provide are some predictions about which we have a higher level of confidence, all of which we think are useful to consider. First, blockchain solutions will consist of more than one blockchain. This is not a race where one competitor or technology will prevail. Different industries need different tools, and it is all but certain that there will never be a one size fits all blockchain protocol. As such, certain solutions will need public and open blockchain solutions based on protocols like Bitcoin and/or Ethereum. Other solutions will require permissioned ledgers like Hyperledger. In some industries, the solution will require a payment component and a corresponding digital currency like Bitcoin. Other industries, however, will use blockchain solutions as a secure way to maintain records in an immutable fashion. Many of these solutions don't require any digital currency, so they don't require a Bitcoin like protocol.

Second, investment in research and development of blockchain technologies will continue to grow in the coming years. This is likely to speed up the pace of implementation. To date, most of this investment has come from private investment, which should continue to grow. Hopefully, government investment in blockchain technology will also increase over the coming years, which together with increasing private investment, will lead to even more innovation and use cases not even considered today.

§ 9:3 Where does all this leave businesses and professions

The most important steps businesses can take today is to

stay informed on the status and development of this technology. This includes the process of making sure IT personnel are not only aware of the technology, but begin to become conversant in the technology and truly understand it. This includes understanding what blockchain technology can realistically do and what is not feasible. As with any new technology, it can often be difficult to differentiate between legitimate capabilities versus pie in the sky claims. Again, education is the key to staying informed about realistic capabilities.

Another important step for those who can benefit from blockchain solutions is to lobby elected and government officials for balanced and appropriate legislation and regulations as discussed in the previous chapter. The first step for governments is to identify what legislation is necessary in order to permit businesses and individuals to take full advantage of the technology. The other task for government is to balance regulations that will add confidence to the technology versus those that will create barriers to entry and ultimately reduce innovation. A proper balance is not only achievable, but vitally necessary for the future of this technology.

For academics, developers and practitioners, the burden is on us to continue to educate the public, including business leaders, on the promise of blockchain technology. This requires an honest assessment of those things that blockchain technology does well and candid disclosure when existing, conventional solutions are more appropriate. We must also recognize that blockchain technology is an interdisciplinary study—implicating finance, microeconomics, game theory, and legal theory to name a few. These are in addition to the more obvious fields of mathematics, cryptography, electrical engineering, and computer science. Ultimately, the most compelling case for the future of blockchain technology is that many of the brightest and most entrepreneurial individuals in each of these fields have converged on one technology—blockchain.

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