

# Cross-Border Coffee Break Meeting

## Blockchain's Potential: An Interdisciplinary Research Approach

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#### **1. Privacy is increasingly becoming a concern for adoption of technologies. How do you think industry 4.0 best overcomes this?**

This is definitely going to be an issue so overcoming this is going to depend on regulation, so this is why we would need very clear regulation on blockchain based assets. Overcoming this could be done by sending proof of some sort of activity and not all information to certain institutions. By doing so, we can create very immutable records of transactions, but not be able to see what kind of activities and movements that the citizens take, but only send proof of the activities. In industry 4.0, the sensors, or oracles, would play a major role to gather the information from these oracles, and it is very important information written for blockchain. So, the info that we feed into the blockchain must be true. These sensors are not going to be very easily manipulated compared to manual inputting. Creating and designing sensors that are not going to reveal personal information. We expect to have these in the next few years.

#### **2. What buy-in have you seen from regulators in your experience? Is there a danger of over-regulation?**

Yes and no. So blockchain is a governance machine so it is not necessary to have control or centralized authority anymore, and this is of course a very big threat to centralized authorities. But this is not really something to be worried about because if we design infrastructure to be in the right way by putting the regulations in a code so that everyone can access this with equal rights, and this will happen in the next couple of years for sure.

We definitely need regulation when it comes to blockchain. Overregulating is not the best answer, but currently with what has been happening in the last couple of years is that there has been an enormous amount of blockchain projects created without any regulations. This is may be why many of the projects have failed, and a lot of money was invested into the projects, and this is why it is dangerous to play with these kinds of assets of blockchain, and why we have regulations on blockchain based assets. In Austria, the policymakers are very open to blockchain, and won't be rushing to overregulate something they don't understand.

**3. Are there specific persons designated at your center to coordinate research on specific themes? For example, if I need to think about researching on supply chain governance then who to contact?**

Professor Alfred Taudes would be the best person to contact about supply chain governance. He is an expert on supply chain and is also one of the leads of our institution. We also have Dr. Shermin Voshmgir, who coordinates this, but we accept research questions that fit into the topics that we have defined. Supply chain transparency is definitely one of the issues we are looking into, but other than that, we currently do not have enough resources to consider research questions besides the defined topics.

**4. How do we best distill blockchain and it's value to the average population who perhaps only equate blockchain to cryptocurrency?**

Blockchain is a backend technology, the end users will hopefully in the future not need to know that they are interacting with blockchain technology. Educating people about blockchain and not only cryptocurrencies is of course very important, and is what we've been seeing lately with the rise of blockchain course offerings at universities and even entire master's programs in Cyprus and Malta.

**5. Is block chain likely to yield more/less relational supply chain than transactional supply chain over time? What are the implications for organizations?**

Implications are very diverse, and supply chain topics have been researched very well. The research on supply chains began in 2013 and this is something that is a very obvious use-case when it comes to blockchain. The complexity and bureaucracy of the supply chain regarding traceability issues is definitely something that blockchain can

solve. A Slovenian chain for example, as well as WeChain in Asia, and what they are doing is that they are creating tokens and access rights to these kinds of platforms and these kinds of systems. Digitalization using bureaucracy is something blockchain would help with, and the consumer should easily see the projects. Some of the projects are creating things such as QR codes allowing people to track info on a public blockchain, and the governance systems of blockchain are helping the potential of technology for blockchain transparency. This has happened in the last 5 years, and come across regulatory issues, and cannot develop themselves further.

## **6. Could you please elaborate on the Supply chain pilots??**

We are designing supply chain pilots, and looking into what really makes sense, still focusing on blockchain transparency. This will be published, and very different issues are being tackled when it comes to supply chains. Governance issues, trackability issues, transparency issues, would require more time to elaborate on these specific issues. We are trying to bring more transparency. Example, such as companies with paper heavy processes are now automating signatures and using smart contracts to trigger actions instead of waiting on someone else to initiate. The smart contracts can be triggered and the whole process would be more efficient and more automated.

## **7. Why do some countries welcome blockchain technology, while others are still being skeptical? What would it take for the majority of the countries to adopt this technology?**

This heavily depends on the regulation of the country, some like e.g. China, do not welcome Initial Coin Offerings, while others do not limit the development of technology and have already very clearly regulated assets on blockchain (e.g. security tokens). Cross border adoption of the technology is not that much of an issue, but issuing assets is. This is why there are a lot of blockchain startups registered in Gibraltar.

## **8. I am curious as to research in relation to the governance mechanisms and consensus mechanisms not to mention the types of blockchains**

This is very interesting, especially when it comes to assessing what type of consensus mechanism should be applied for a certain issue, taking for example scalability and attack

resistance into account. Types of blockchain have so far been well defined, what is currently interesting to observe is the development of cross-chain communication.

**9. Is there any company or supply chain (example) where block chain has yielded tangible business advantage?**

This is harder to assess, most of these blockchain projects are still just working on pilot projects and running on test nets. The 3 (pilots) that I have mentioned have been working on this a lot, but I cannot name one now and answer this question.

**10. Which specific areas can blockchain help regulating under social inclusion for developing country like India?**

An example is the world food programs. What blockchain can offer is identities on blockchain where people would not have IDs. Having a blockchain based identity, people would be able to have access to more financial services. This is connected to regulatory aspects of a country, but in refugee camps and world food programs, for a example, this is what they're doing is giving people access to financial services by accepting cryptocurrency or local currency based on blockchains. These currencies are used in refugee camps and these kinds social inclusions is what blockchain can help with.

**11. Are there any other similar technologies being developed that will trump/shadow over blockchain technology? (sort of second mover advantage)? What has been done to make blockchain technology universally accepted?**

Blockchain is one of the Distributed Ledger Technologies and can best contribute to a system that is composed in a way that blockchain can interact with Artificial Intelligence and Internet of Things, so developing other technologies around blockchain is necessary.

Blockchain is already accepted in very diverse settings, from paying kindergarten fees in cryptocurrencies in Dubai to having over 1 mil land registries on blockchain in Republic of Georgia. EU Commission has for example formed a Blockchain Observatory and Forum where they monitor blockchain development, try to define their role and bring clarity to EU's take on blockchain.

## **12. Is it possible to partner with Public Institute from developing world in this program? How?**

This is the idea of the development agencies and they are interested in bringing solutions to the developing countries. They have 12 developing countries with include Bhutan, Mozambique, Kosovo to list a few. They are searching for solutions for these countries, and also looking into existing blockchain activities in some of these specific countries, and trying to define meaningful blockchain based projects. So yes, policy makers in certain agencies are very open to this such as here in Austria and Germany. Germany also has a blockchain lab and is very active in participating in the blockchain activities. An example project they worked on is issuing blockchain diplomas. Some of these developing countries, is easy to manipulate and falsify university diplomas, so this is an issue they were trying to tackle with blockchain.

## **13. Where do I access this details on the pilots?**

On their websites, they have white papers where they explain ideas. Projects are frequently writing blogs and they are very active on social media where you can track their activities and see who they are working with, and specific products. This should be a very good source for blockchain startups and following their blogs and announcements on their websites.