

INDU 

<http://induo.tech>

THE FUTURE OF ACCOUNTING BEYOND MONEY.

BY EDIN MUSTAJBEGOVIC

Very Drafty....

JEREMY
RIFKIN

“We’re finally going to get the **bill** for the Industrial Age. If the projections are right, it’s going to be a big one: the ecological collapse of the planet.”



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This document outlines a view on a revolutionary new business. While ideas are cheap, feel free to copy and compete with us towards the realisation of this business. But remember you learned it here first so don't sue us when we make this happen.

See you out there :)

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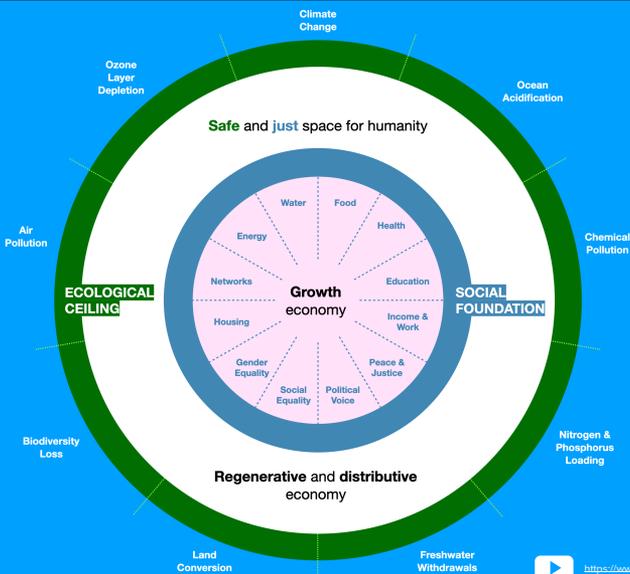
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No species has managed to grow the complexity and scale of activity as we have. Aided by technology and drive for growth, we are exploiting every corner of our planet and impacting every human. Even a century ago, concepts like the indoor bathroom was a luxury majority of us could not afford. Health, food security, longevity and pretty much every measure of our well being has been transformed over the last two centuries.

In the world where everyone is poor with short lifespans, growth is essential to meet the needs and wants of people on the planet. Now, our technology, both physical and social, have created a world where globally, obesity is a bigger problem than starvation. We have improved just about every metric from security to life span. We are now hitting the second limit, the upper limit of our ecosystem.

As we deploy our physical and social tools, we are undermining the very substrate that enables our way of living. The upper limits such as land productivity, air pollution and so on are critical upper limits beyond which we are not going to be able to sustain our current activities. How do we balance human needs with the needs of the ecosystem?

As our technology becomes more powerful, combined with management tools designed only for growth, we not only face existential risk from whatever nature can throw at us but the existential threat of our activities.



Doughnut Economics
by Kate Raworth



<https://www.youtube.com/watch?v=Mkg7XMDWV4g>

PROLOGUE

It all starts underground—the material we need for everything we use. We go looking for where to drill and dig deep holes and big mines. This game is expensive and lengthy. We spend billions to establish a mine so our world can have raw materials from which to make everything from screwdrivers to rockets and smartphones. After much effort, we start extracting and transporting this raw material across the globe to factories and hands to transform it into material nature has not developed. More factories assemble new materials into products, products that form part of other products. At some point, the product is useful, and we use them to make more products and by-products, deliver services and move our economy. We then discard the products, sometimes break them down into base material and recycle it into new products. All along this path, we exploit nature, impact people's lives and keep busy. It is a dance that humans perform every day across the globe. Each of us forms part of the story. The truth is this story is complex. It is too complex to deal with individual people and individual atoms. We group people into teams, into departments, into companies and countries. We then specialise these into entities that dig, those that make, those that use and those that manage. This specialisation requires an exchange of information that allows this intricate dance to work. We invented money as a means of information exchange. The system works by connecting each part with materials, products and services moving from material underground to all the stuff we see around us and services this stuff enables. Money flows backwards, from end consumer to the mining company and everywhere in-between. We manage this money carefully as it is the only global signal we have to co-ordinate where to dig, what to make and what we use.

One morning, probably over breakfast, we realised an undeniable truth. Our planet is finite, and our ambitions are unbounded. There is only so much stuff underground. Our money based information exchange works reasonably well to signal what is rare and what is abundant as long as we use it. But there are limits on our planet that we impact every day that we don't directly use. Our busy lives, our activities create not just products, but by-products, both physical and social. Nature has rules, rules like gravity and thermodynamics. When we burn things we dig, we not only create things we use but a whole lot of things we don't. Nature has no concept of what is useful for us. It incorporates it all into itself. With more of us around and all of us busy, we are now exceeding nature's ability to incorporate all the things we extract, burn and make. Nature was in the state where we were possible. We are now impacting that state.

Money is not a good enough information exchange technology to understand our impact on the very thing that makes the dance possible.

Time to upgrade...



To manage growth, we measure our activity in terms of economic value. We translate all our activities, products and services into monetary value. This translation is very crude as it lacks the accurate means to model the conversion of much of the concepts we consider valuable. We call these badly converted or downright ignored externalities. Our accounting systems need to be more sophisticated and scalable to allow us to effectively understand and manage the full picture of our activities, impact and value.

**STARTING WITH EMISSIONS
ACCOUNTING, INDUO'S AMBITION IS TO
CREATE A FUTURE WHERE THE TRUE
COST IS REPRESENTED IN THE
ACCOUNTS, NOT JUST MONEY.**

There are, however, several critical challenges we need to overcome to realise practical emissions accounting and beyond. Overcoming these challenges will create an unprecedented opportunity to transform our economies.

1. CHALLENGES

EFFICIENT MARKETS WITHOUT IGNORANCE

Even the simplest of products, once available to end customer has significant emissions built into the product. Activities such as mining for the raw materials, manufacturing, transport, and so on all add emissions to the end product. Beyond some crude measure, there is no way for customers to tell the emissions embedded into the product or service they purchase. Not only is this the problem for the end consumer but customers at all levels of the economy. Until customers make purchasing decisions, at least in part, based on ecological limits, our markets will remain ignorant. Accounting systems currently only keep track of profit or loss and not much else, but these measures do not include the externalities. Value chains are complex adaptive networks and require new ways to conceptualise how we account and manage critical information across multi-actor, multi-jurisdiction and multi-purpose systems. We need new protocols for inclusive accounting (beyond financial accounting). These protocols have to work at multiple scales, from individuals to large corporations and even countries. When much of the accounting theory and ideas were invented, we did not have the technology we do today. We believe it is possible to re-imagine and implement a truly distributed, inclusive set of accounting protocols.



Centralised



Decentralised



Networked



Complex Adaptive

A NEW PHASE OF PRODUCTIVITY

How do we get more for less? Productivity growth has been in decline for several decades. One of the proposed reasons is that we measure productivity as a ratio of inputs and outputs that exclude the energy productivity of the system. Inputs are generally labour or capital. When we consider the problem of understanding and reducing emissions, we realise that energy is a critical input into the productivity equation. We currently convert energy to cost that emits energy type, energy use and granularity needed to understand thermodynamic properties of the value chain or system. Energy accounting is absent from most datasets we use to understand the performance of our activities, businesses or countries. We believe a new accounting paradigm will enable us to embrace a new phase of productivity understanding. Any attempt to create a sustainable economic activity on our planet needs to account not only for the full set of impacts but provide means to understand and improve operations themselves. Adding energy to the productivity equation (in addition to capital and labour) will enable us to measure and understand emissions like never before, but also point to the new opportunities for productivity growth.

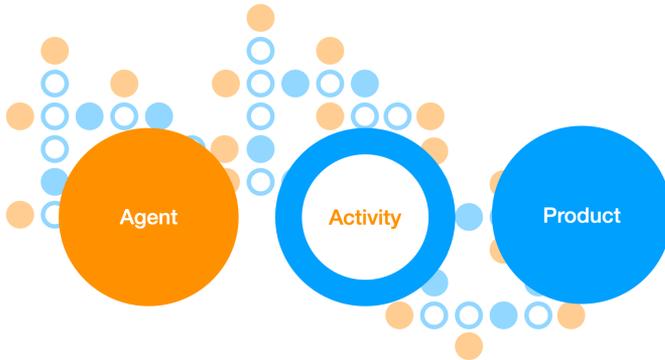
ARCHITECTURE INVERSION

Most accounting software systems we know are large modular centralised systems like Enterprise Resource Planning platform SAP, and so on. These systems are typically extensive, complex and hard to change. Our reliance on these systems is one of the reasons our foundational accounting practices have not changed. It is expensive and disruptive to improve these systems that are highly regulated across the world. We need to create a way where financial accounting can continue as it has for decades as we in parallel introduce a highly-distributed set of protocols and solutions that are more appropriate for complex adaptive networks such as our value chains. Instead of encoding complex rules into specific software, we need to create toolkits where individual value chain agents can develop their accounting systems and connect them into a diverse and transparent network.

1. CONCEPT

AGENTS, ACTIVITIES & PRODUCTS

Economic networks are made up of agents, activities and products. The fundamental concept behind Induo is how agents, activities and products are connected and interact as a sophisticated distributed trusted network. We believe a simple set of ideas like agents, activities and products. A well-designed protocol for information exchange can be assembled into a system that can account for complex concepts such as emissions. Activities can account for emissions required to create products. Products, in turn, are used to perform other activities and create new products. We have new technologies that are starting to make it possible to implement and automate systems at the scale beyond a single organisation. Blockchain is one such technology but is insufficiently distributed, requiring centralised ledgers. Emerging technologies such as Holochain offer a potential to implement a truly distributed, scalable and trusted network of agents, activities and products.



TRANSPARENCY

Within the monetary system, agents generate data about their financial performance. We verify this data represents actual reality via regulations and auditors. To achieve real transparency, agents need to not only exchange data but models they use to generate that data. When accounting for more than money, especially concepts like emissions, we need to understand the models used to create data agents are sharing. Agents are typically companies that operate in many jurisdictions, each with their own rules and ways of accounting. While we could push for global standards, so everyone is using the same model, we believe this is not only impractical but stifles diversity and slows down improvements. The protocol we need is not just about data exchange but model exchange as well.

OPEN EXCHANGE PROTOCOL

To create a truly distributed interactions between agents, we need a protocol for model and data exchange. Over the last few decades, we have had excellent success developing simple protocols that underpin much of the internet. These are technical protocols. Our ambition is to design a software-based protocol for agents to exchange accounting information, starting with emissions embedded into products and services.

MARKETPLACE

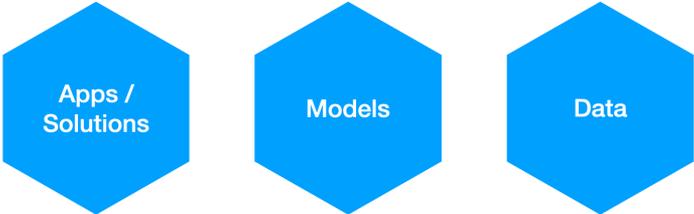
Induo does not have the ambition to become the new, modern SAP. We believe the only way we can transform how we account for our economic activities beyond money is to create a marketplace where solutions, models and data can be developed and exchanged. Based on the open protocol of how these concepts interact, we can generate a new economy for makers and users to create new solutions and connect them across the value chains. The marketplace is the fundamental way Induo will finance the development of the open exchange protocol and monetise efforts of developers and users.

DISTRIBUTED PLATFORM, CENTRALISED MARKETPLACE...

Connect



Buy and Sell



Distributed Platform

based on

H O L  C H A I N

2. PLAN

A) DEVELOP THE PROTOCOL

Develop a protocol for information and model exchange. Investigate existing efforts such as Holochain, and either contribute to their development to create a new distributed platform.

B) SELECT A POPULAR PRODUCT AND CONNECT ALL AGENTS INTO EMISSION ACCOUNTING NETWORK

Validate and enhance the protocol by connecting a value chain for a popular product back to material flows. Establish a full emissions accounting network for the product.

C) ESTABLISH MARKETPLACE

Establish a marketplace where others can connect other product value chains. Seed the marketplace with initial data, solutions and models used to develop the first value chain.

D) FULL DOUGHNUT ACCOUNTING

Expand beyond emissions to the full social foundation and ecological ceiling accounting.

2. TEAM

It's a secret we don't want to write about but come and ask us... They have jobs and are working on Induo in secret.

WE NEED INVESTORS TO COME AND JOIN OUR TEAM.