CHARTING THEIR OWN COURSE
A parting of regulatory ways
The new industrial revolution and digital transformation, which will enable smart thinking, working and automation across multiple industries, are changing the nature of trade, both digital as well as physical, writes the founder of enterprise standards body LEADing Practice.

Digital innovation is creating major market changes, enabling organisations to work smarter, faster and cheaper. Many observers believe that across all industries it is the beginning of a new industrial revolution, considered to be the fourth such leap forward, and hence labelled Industry 4.0. This industrial technology revolution is triggering even greater global communication and commerce and associated with these developments is an enormous increase in the internationalisation of flows in goods and services.

As Georg Etzel, co-CEO of LEADing Practice, an enterprise standards body, and a thought-leader in the field of Industry 4.0 and digital innovation, predicts: “We are on the edge of a digital transformation that will fundamentally innovate the DNA of organisations. It will also innovate the way we live, work and relate to one another. In its scale, range, space, scope and complexity, it is unlike anything humankind has experienced before.”

Revolutions in trade
The Global University Alliance (GUA), which consists of more than 450 universities, professors, lecturers and researchers, has researched how the industrial revolution and digital innovation has led to a change in the historical trade model. Over the past 20 years, based on the implementation of various e-business solutions, organisations worldwide have moved from a direct trading model to a linked trade concept.

Across industries, GUA has observed where organisations have not only linked but also created a partnered trading model. With the adoption of Industry 4.0 technologies, digital innovation and smart applications, organisations are advancing their trading model to where they are digitally connected and integrated. It is a normal result that organisations are now trading much more across industries, as well as cross-border. Multi-national corporations have already changed the patterns of international production, trade and supply chains.

For a digitally connected and integrated trading model, information is required to flow not only internally but also across the various partner value chains. For example, a supplier requires detailed information to be able to produce the good or service quickly enough and with the level of customisation needed to satisfy the end user.

Digital innovation is convincing organisations around the world to revisit their business models to engage and retain customers, who in turn are increasingly shaped by the digital world. Being able to deliver and handle this individual and real-time information flow demands fundamental changes in the traditional way of doing business. The fundamental change that must occur is the move towards a more flexible and fluid way of dealing with business partners in a connected and integrated value chain.

Trade in a digital world

A digital agenda with real innovation has become a mantra for future enterprises. To achieve a competitive advantage, organisations are applying digital innovation moving to a more digitally connected and integrated operating model (see diagram below). Driven by an explosion of demands and opportunities, and enabled by the Internet of Things, a digitally connected and integrated value chain enables dynamic collaboration among internal personnel, business partners and customers throughout any given trading set-up.

But, obviously, this also means changes to the business model. Following the industrial revolution, further vertical specialisation in the digitally connected and integrated value chain occurred. Normally, vertical specialisation happens when a country uses imported intermediate parts to create a good it later exports – that is, the country links sequentially with other countries to produce a final good.

Already by the end the 1990s and start of the new millennium, when linked trade emerged based on e-business, input-output tables from the Organization for Economic Co-operation and
Development showed that vertical specialisation accounted for a large and increasing share of international trade.

In the digitally connected and integrated trade model, an organisation's focus is progressing from departmental productivity and external transaction handling, to how to interact seamlessly with customers, partners and suppliers.

At the same time, the focus is switching to increasing the overall value chain competitiveness, instead of the competitiveness of the individual enterprise. Enterprises that are digitally integrated in their value chain will consequently move from an internally focused cost-reduction strategy to an externally focused revenue-enhancement strategy.

These enterprises’ success will rest on purging their micro-networks, abandoning a process aimed at aligning their dysfunctional services, and replacing them with agile, more collaborative services that can take advantage of working in a value chain where enterprises service each other and the entire network can adapt to customers’ changing wants and needs.

**Intelligent collaboration**

The trends encouraging vertical specialisation – as well as lower European and international trade barriers, and improvements in digitally connected and integrated technologies – are not only likely to continue but to increase. This type of trade model will move to an intelligent collaboration with customers, partners and suppliers across the value chain. This enables the collaborative enterprise to focus on the core differentiating and competitive competencies, and outsource the non-core competencies to specialist organisations.

With changes in the trade concept, which transforms business and operating model requirements, organisations will need to adopt new strategies for different distribution and supplier channels, as well as partner relationships. But there is no one-size-fits-all value chain connection, integration or intelligent collaborative strategy. This requires a deep understanding of the power dynamics embedded in the new value chain (for example, where the compression points are where power resides), as well as understanding trading partners’ capabilities and limitations.

Driven by the trade changes, the existing concept of an organisation is also being reformed. The existing organisational theories, such as the value chain concept (Michael Porter) or supply chain concepts, are only applicable to industry dinosaurs. With the new connected and integrated value chains, organisations have interwoven components of their business model and operating model.

**New theory needed**

Therefore, it is possible not only to portray a single view of one’s organisation and capture the value chain, but also consider multiple organisations to capture the real value chain. The changes in trade and business model are so big that they even call for a new theory around value chain concepts.

There is no question that the world is in the midst of a new industrial revolution and that these technologies are enabling new forms of digital, as well as physical, trade. I believe that digital innovation is ground zero for a new phase of global transformation powered by technology, generating significant economic opportunities and reshaping industries.

In the words of professor Ardavan Amini, director of the Enterprise Systems Lab at Birmingham City University: “The changing nature of services, products and interlinked industries is disrupting entire markets, forcing organisations to rethink nearly everything they do internally. As a matter of fact, if they don’t start thinking in system-to-systems complexity, they will be impacted by
competitors and ‘complementors’ they didn’t even know existed.”

Professor Mark von Rosing is the founder of LEADing Practice.

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