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# Value-Based Supply:

## Dynamic competencies and the power of digital transformation

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### GET INVOLVED!

This is the second of a series of four white papers sponsored by Mölnlycke from the Value-Based Health and Care Academy at Swansea University. Please join in with the debate. Share your views online using #valuebasedsupply and join the [Value-Based Supply Group on LinkedIn](#). The first paper in the series is still available to [download from the EU Alliance for Value in Health](#).

In our first white paper, Value-Based Supply: Re-imagining Value from Within, we described eight critical success factors for MedTech companies to engage successfully with Value-Based Health Systems. In this paper we now consider how MedTech companies can be a catalyst for Value-Based Health Care (VBHC) systems through the use of digital technologies: enabling resources to be disinvested from internal activities of low value and in unwarranted variation and allocating the resources this releases to invest in higher value interventions within the business itself, thus creating added value [1].

**MedTech** increasingly are supporting their physical products with digital services that wrap around them to add value by creating better outcomes for patients. Exploiting this new form of value is a potent form of competitive advantage where the principles of VBHC are delivered through digital innovation; offering new opportunities for MedTech organisations. Understanding the digitalisation agenda is now essential for all manufacturers and service providers and at every stage of a MedTech supply chain.

**Suppliers to MedTech companies** further upstream in the supply chain are sources of innovation too and organisational boundaries should be put aside when designing new digital products and services.

Whilst an organisational chart shows the structure of a company it does not capture the value that can be generated by cross-functional management and developing processes that exceed expectations [2]. These solution enablers originate typically from superior quality, delivery, flexibility, a focus on environmental sustainability and total costs of the customer-supplier partnership: which a clear internal digitalisation strategy can support deliver.



The same is true of internal teams and departments; the integration of company specialists, such as regulatory and quality affairs, marketing, operations and supply chain all share these common process measures, as well as one other – *innovativeness*. Innovation happens when staff come together to solve problems, improve processes, and design new radical product and service solutions.

Pause for second. If 80% of a product or service is made by a supplier rather than the assembler, the engagement of the supply base and partnership approach is more critical now than ever before. Suppliers of even the most basic of materials or parts can then become significant additions to the drive to innovate and value creation – just look at the new intelligent materials that can be connected to the internet and synchronously export data about a patient's health [3].

Digitalisation now allows rapid prototyping. Industry 4.0 offers new products, in batch sizes of just one product, to be made and shipped within hours and critically, digital services allow vital information to be exchanged [4]. These supply chain exchanges include new secure opportunities that can add value for suppliers too.

For decades, suppliers have struggled with customer forecast inaccuracies, demand distortion and information deficits. The new supply chain is fuelled by real-time information exchanges, shared intelligence and a lower reliance on manual forecasts through greater sharing and synchronous decision-making. Assistive technologies such as Machine Learning or Artificial Intelligence effortlessly configure unstructured information streams and add new contingencies (such as weather, political challenges, materials deployment and lead times) to improve the certainty that decisions taken will result in better business outcomes and greater technical value within the business and for a better experience for healthcare systems. Better and timely decisions reduce the need for large production batches and multi-point inventory holdings across the entire value chain. It permits more effective product development and product life cycle management with greater control, precision and optimised cash flow for all trading partners. Internally, common and dynamic information enhances responsiveness, ensures more effective coordination and transparency of demand information, asset availability, material flows and staff collaborations on key breakthrough projects for customers. This is a new world beyond the usual technology developments that are pushed on industry – these are technologies that can be harnessed, and where interoperability exists, allows entire networks of people to collaborate, harvest innovation and deliver optimised solutions for every customer across all their needs.

The SARS-CoV-2 pandemic forced a rethink of MedTech business digital processes and models and demonstrated the benefit of partnerships between internal departments, supply chain and like-minded organisations. Digital enablers now mean innovative ideas can enter an organisation and unleash new offerings in a matter of weeks rather than the traditional cycles which were measured in months and years. Businesses are becoming flatter, supply chains are more transparent and, through solution thinking, staff are more able to measure the value they add to products and services. How these new forces will reshape the internal cultures of MedTech businesses will depend greatly on how they can respond to the expressed and latent needs of the customer in a way that offers new value. This largely rests on the capacity of businesses to be learning organisations and to release time from low value activities for collaboration between teams, departments and wider ecosystem colleagues. We believe that the only sustainable source of competitive advantage any business has is its culture, so growing an environment for digital innovation, intelligent failures and implementation science will be key.

Looking externally, VBHC in this context is truly transformational for patients, healthcare systems and MedTech industry within the context of a Partnership for shared Value. Whole industries have been disrupted with these forms of technology-enabled solutions.

## The enablers for a digital future are already here:

- Industry 4.0 manufacturing cells where hundreds of unique product variants can be made, without batching, each shift – one at a time and to exact customer order (labelled accordingly and shipped instantly [8]).
- Improved asset management including equipment working to dynamic plans at full availability, high quality and high speed to make what has been actually sold.
- Robotic Process Automation to release time doing repetitive administrative tasks so that more time can be invested in working on projects and adding greater value for the organisation, its customers and its supply chain partners [9].
- Wearable technologies which include intelligent fabrics, watches and implanted monitoring devices can track and respond to data derived from the patient. These devices can trigger production of patient needs (implanted ‘factories’ generating insulin to maintain the body’s requirements) or communicate with the monitoring staff of ‘virtual wards’ who may be kilometres away [6].
- Intelligent wound scanning, wound dressing materials [7] and assistive devices for enhanced clinical performance.

In healthcare we see the use of wristwatches to transmit the patient vital signs to clinicians, smartphones to send AI powered photographs of wounds for assessment, connected insulin pumps and monitors to optimise diabetes management, drones to deliver blood and defibrillators in emergencies, robot-assisted surgery and solutions that unlock new revenue streams for manufacturers and suppliers who want to become embedded partners with healthcare systems.

This digital era unleashes the adaptiveness of businesses. It enables new business models to emerge, and the time compression allows new innovations to launch more quickly and deliver through an efficient and effective customer offering. New models, where paying for ‘device usage’ as a service displaces the high upfront capital costs of purchasing products, are attractive for healthcare providers and improves technical value in pathways of care. Pay on use provides clean data which can be transmitted instantaneously to trigger the fulfilment process so that products are fresh and are pulled through the value chain [5]. ‘Lease’ contracts add new revenue streams to the producer and a constant flow of information, products and money rather than ‘pushing’ products and operating expensive warehouses to cover for poor supply chain performance as in previous eras.

The combination of new models with bespoke customer offerings create a full-service solution: from generating reports about usage, identifying product inventory levels that can be reduced to ensure 'fresh products' are provided on a first-in first-used basis, digital value chain optimisation, pre-warning of maintenance outages for the value chain, consumable item recommendations for customers and a seamless integration where any manufacturer in the value chain can begin the replenishment process within seconds of a product being used by a customer in a different time zone (Industry 4.0) with connections throughout the wider supply chain. These are realities for VBHC businesses that enable empowered and innovative staff to create connected solutions digitally.

Partnerships for Value like this mean changing internal relationships too. There is an internal dimension to value creation and capture that can be exploited from working in partnership. MedTech can embrace all these opportunities: the effective design of the external digital dimension of the operating model is crucial for reputation, customer loyalty and greater shared value in the future.

## SUMMARY

This new era of digital enablement offers many advances for businesses and connected value chains, but technology only has a place in a vision of the future with a logic to support consumers and customer. Value-Based Health Care provides this essential and commercial logic, where the potent Value-Based paradigm is combined with the opportunities of an aligned and enabled internal company and its partners that support optimised information and product flow. The future is very bright for those organisations that take the time to rethink their business models in this way but much less certain for those who stick with the traditional approach of selling any product to anyone.

### Modern innovative and future-focused businesses will:

- 1) Build partnerships across the supply chain for innovation, knowledge sharing and developing the right type of cultural relationships (internally and externally across organisations).
- 2) Explore internal digital service enhancements that drive the highest technical value and enhance customer product and service value.
- 3) Incorporate digitalisation in their strategic approach to environmental impact reduction of product manufacturing, supply chain and usage.
- 4) Use the principles of VBHC to navigate the changes from the "current state" business model to a new model where value is derived from solutions powered by digitally enabled partnerships.

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James has over a decade working in the medical devices industry, obtaining a broad procurement, NHS and industry perspective through roles in the public and private sector. His journey has identified a passion for value and understanding what this means to health care providers and clinicians.



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## DISCLOSURE

The VBHC Academy receives funding from Welsh Government and industry partners. The views expressed in this paper are the personal views of the authors.

Please join with us in the debate and share your views online using #valuebasedsupply and join our LinkedIn group [Value-based Supply](#).

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