Co-creation of value

Customers and society are constantly redefining the value they require, and how and where they want to consume it. Customer value co-creation is increasingly through digital servitisation.

Uber applies this principle – firstly by transforming the traditional taxi service into one which offers on-demand transport and effortless payment from a smartphone; and secondly in the way it collects real-time feedback on driver performance and engages with customers to solve problems and introduce new services and features. Many customers are no longer excited by just owning a product or using a service. Instead their interest lies in how it can serve their needs and outcomes.

Cybernetics

Data is captured from multiple sources across vertical, horizontal and end-to-end supply chains. Interconnected and smart networks in ecosystems are increasingly used to dynamically regulate and improve total system performance, including behaviours, inputs and outputs.

The Smart Home is an example of first and second order cybernetics in action. For example, by using systems such as Amazon Alexa, Hive or Nest, a person with a goal can act to set that goal for a self-regulating device, such as a thermostat in their home.

Transparency and collaboration

The value chain is increasingly an integrated ‘smart’ network of interrelated and interconnected cyber-physical systems. The ecosystems transcend traditional legacy boundaries and increasingly create whole-life circular economies. The customer, an active part of this network, requires both effective risk management and greater transparency and collaboration across multiple disciplines as technology networks expand.

Fitness trackers are an example of transparency and collaboration in action. They can guide you on your run, tell you how far you’ve run, where you can and how fast. However, this highly connected network can also present a potential risk. In 2018, an interactive map of tracked fitness activities of people who use the Strava app inadvertently revealed the location of military bases overseas. This caused the US military to review its employees’ fitness tracking devices.

Cyber physical systems

The balance and integration of human effort and machine effort, in the broadest sense, continually changes over time, automating some previously human roles and creating new ones around the co-design of cyber-physical quality systems.

The AutoPilot is a trusted and proven example of the cyber physical system used by avionics today. The move towards self-driving cars is another example of such a system. Take Tesla cars which all now feature, as standard, advanced hardware capable of providing autopilot, and full self-driving capabilities.

Quality 4.0 is the leveraging of technology with people to improve the quality of an organisation, its products, its services and the outcomes it creates.

Our objective

To develop a working definition of Quality 4.0

The eight supporting principles

These principles underpin our working definition of Quality 4.0. They enhance the established quality principles, which provide a focus on customer needs, expectations and satisfaction.