Classifying & Managing R&D in Companies using the Core Technologies Framework

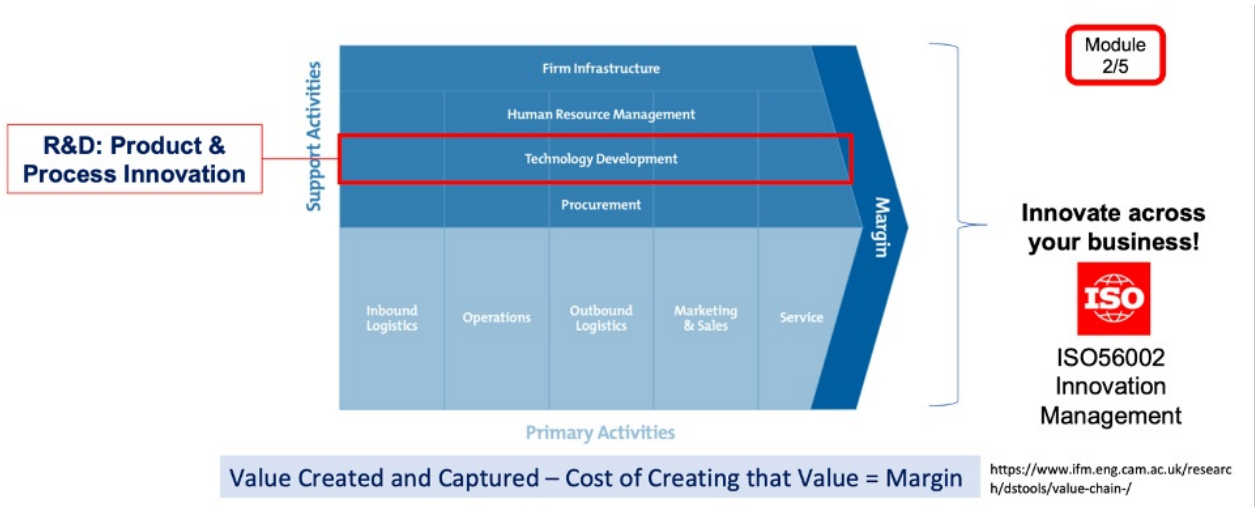
13/02/2024 7:42 am GMT

Lord Kelvin famously wrote *"When you can measure what you are speaking about, and express it in numbers, you know something about it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarely, in your thoughts advanced to the stage of science."*

To be able to manage Innovation and R&D in your company, it must be measurable.

A useful framework to draw on to understand and position Innovation (and R&D) in your company, is Michael Porter's "**Value Chain**" (outlined below). Michael Porter's **"**Value Chain**"** comprises a company's "primary" activities and "supporting" activities. All of these activities are created to deliver value to an organization. Michael Porter posits that the profit margin achieved by a company represents the value created by all of these activities less the cost of creating them.

As can be seen in the diagram below, when you thinks about Innovation in your company, consider it across the business, from supporting activities such as HR and procurement, through to operations, marketing, sales and service.



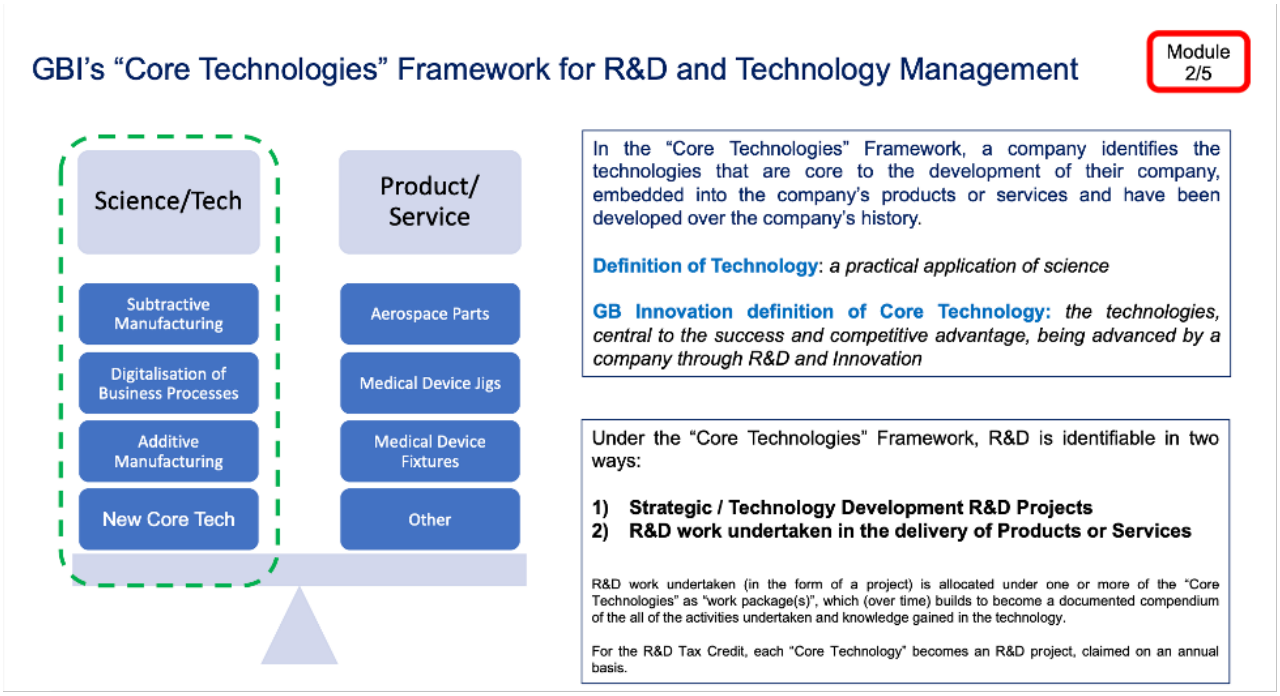
Technology development is classified under "**Support Activities**", and ReaDI-Watch proposes that this technology development can be classified as both "**product**" and "**process**" development. A strong innovation management process and framework will recognise and embrace the different types of Innovation and R&D taking place, every day.

Product and Process Innovation – Technology Advancement

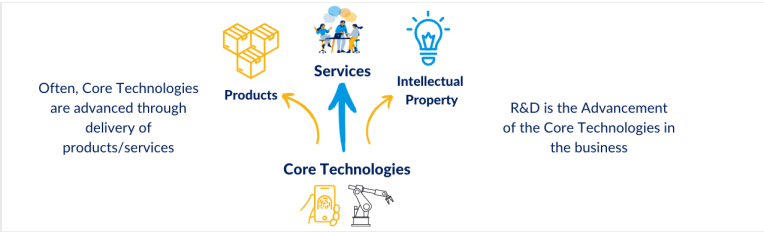
ReaDI-Watch has developed the "Core Technologies" framework, for the benefit of its customers, to help draw out the R&D taking place in the business.

In the "Core Technologies" framework, R&D can take place directly to develop or advance technology, and/or in the delivery / development of products and services.

On the diagram below, the “Core Technologies” in a Precision Engineering company are outlined, whereas the products and services (how the business generates revenue) are on the right-hand side of the balance. They are placed on a balance to represent the interconnectivity, interdependence and balance that must be maintained by companies to advance technology and generate revenue.



Another way to represent the above diagram, is by considering that the Core Technologies underpin (or tie together), your company’s products, services, and Intellectual Property. Businesses make money from products, services and IP licenses (such as licensing technology) but are driven through the advancement of core technologies to create a sustained competitive advantage.



The benefits of understanding, classifying, and measuring your core technologies are wide-ranging and ultimately can drive and create value for an organisation.