products made of raw materials, while development processes are characterized by complex interrelationships and information flows that result in a "recipe" for a new product.

Furthermore, the definition of waste varies when transferred from the field of production to product development. Unnecessary stock or transport, for example, defines waste in the production process. But in terms of development processes, waste could be seen as the late or false allocation of information. This makes it a central challenge to visualize the value stream in development processes to identify waste in a structured manner.

Methods originally devised for the manufacturing process have to be aligned to meet requirements that abound in the product development environment. For this purpose, responsible project leaders and their teams identify activities and make decisions about the development process and their interactions. By depicting the value-added activities from a customer’s point of view, it is possible to visualize the value stream of the product development, as shown in Figure 1.

First of all, a retrospective analysis can help you identify frequently recurring weaknesses that are typical for the product development process. Using an interdisciplinary concept, record the activities and decisions, including all involved corporate functions, such as development, engineering or manufacturing, by analyzing completed and ongoing projects. Identifying these weaknesses can help project leaders and their teams define optimization measures for the value stream.

Just like in manufacturing, waste follows patterns in development projects. The value stream analysis identifies these issues. Various projects in different industries have shown good results from analyzing and optimizing their value stream.

The following example of a consumer goods manufacturer clarifies the method. In numerous workshops, the project team conducted the process and aimed to increase the efficiency and effectiveness of two product groups. The analysis focused on the concept phase and early development of prototypes. Before the first workshops, the company chose a representative development project to work on. In the first workshops, the project team detected and documented the as-is value stream. A short review identified typical deficits. Additionally, the head of product development defined the strategic top-down perspective.

In a second workshop phase, the swim-lane method visualized the as-is