Value co-creation is a specific type of collaboration that is considered to be an innovative and interactive process between end users and organisations; it aims to increase the value of a product or service. This study investigates how a network of stakeholders collaborating to manage innovation openly co-creates value over time; it contributes to the existing literature on value co-creation by taking the perspective of the network as a whole. The study follows a case in which value co-creation unfolds over time across a network of stakeholders within the business-to-business facility service context. The in-depth longitudinal investigation of a network composed of a corporate customer and its external facility service providers revealed that a network of stakeholders co-creates value over time by 1) offering an adaptable structure for the network to organise innovation activities and establish support routines, 2) facilitating interactions to support stakeholder relation development and 3) allowing participants to achieve self-empowerment. Therefore, stakeholder value co-creation entails the combination of single value co-creation activities and overarching network progressions that allow for learning and inter-organisational trust among stakeholders.