

## **Can machine-to-machine communications be used to improve customer experience in a service environment?**

**Shaun West<sup>1</sup>, Dominik Kujawski<sup>2</sup>, Paolo Gaiardelli<sup>3</sup>**

<sup>1</sup>Lucerne University of Applied Sciences and Arts, Switzerland

<sup>2</sup>Luzern University of Applied Sciences and Art, Switzerland

<sup>3</sup>University of Bergamo, Italy

[shaun.west@hslu.ch](mailto:shaun.west@hslu.ch), [dominik.kujawski@stud.hslu.ch](mailto:dominik.kujawski@stud.hslu.ch),  
[paolo.gaiardelli@unibg.it](mailto:paolo.gaiardelli@unibg.it)

### **Abstract**

**Purpose:** The purpose of this paper is to identify ways in which Machine-to-Machine (M2M) communication can be used by product-based manufacturing firms to deepen and broaden the service aspects of their customer value proposition. The expectation is that an improved customer value proposition leads to improved customer experience, and through this to improved customer retention.

**Design/Methodology/Approach:** The approach taken has been two-fold:

1. A literature review to understand what is available in a B2B environment;
2. Obtaining initial feedback from surveys and interview with equipment owners and operators, suppliers of condition monitoring systems and other stakeholders to understand the different value propositions.

It was considered important to widen the horizon of 'condition monitoring' to provide as many different ways to improve the customer experience as possible. The literature review was undertaken based on the broader definition of condition monitoring. The review was not limited to the academic press but

expanded to include trade journals and websites. The M2M impact on human-to-human interactions was also considered.

Over 15 interviews with stakeholders were undertaken so that their perception of the value proposition could be understood. All were from the B2B environment and with interests, of some form, in high-value equipment. This required detailed segmentation based on how data was consumed – each segment had different outcomes that concerned them.

**Findings:** M2M can be used within the internet of things to improve the customer experience. However there are many risks and negative aspects that limit the possible gains:

- the 'customer' may not understand what they actually need;
- loss of personal interactions can lead to a perception of a lower level of value;
- clear customer/use segmentation must be undertaken;
- each customer persona must have a clear value proposition;
- there must be transparency in the data collection;
- the data collected must be used openly for root-cause-analysis rather than defensively to protect warranty positions;
- the data can be used to support new product and service development.

**Originality/value:** This remains a new area for development for many manufacturing firms in the B2B space. The technology is proven yet there are numerous firms that are unable to monetise the monitoring they undertake for their customers. The value of this paper is that it develops a process to support the application of M2M monitoring by identifying key tasks to help firms develop an effective customer value proposition.

**Keywords:** Servitization, internet of things, value proposition, customer experience, technology communication.