

SERVICE MANAGEMENT AND THE INTERNET OF THINGS (IoT)

This is the final in a series of six postings looking at the impact of the new realm of service provision on the traditional way of managing services as per the ITIL framework.

The postings cover:

1. Agile Methodology
2. DevOps and CI/CD
3. Cloud Computing
4. Digital Transformation
5. Lean Thinking
6. **Internet of Things (IoT)**

A brief explanation of the Internet of Things (Gleaned from various webinars)

Billions of 'things' are connected to the internet (IP Addressable), and this number is growing exponentially. The Internet of Things is a collective term for all types of devices that are capable of communicating over the internet.

All such a device requires is a power source, IP address and some simple logic. The types of devices connected are extremely varied, cameras, refrigerators, assembly machines, heart rate monitors, cars, etc, etc, etc.

All of these devices are potential data sources, feeding back information to some other point for processing. The data collection, processing and results form a service in themselves.

To say that the potential and variety of services possible is limited only by our imagination is an understatement. If you can imagine a service being provided by a device, then chances are somewhere, someone is already doing this. The best approach is to research who is doing it, where, and how can you make use of it.

So, are there limiting factors to what can be done? Yes.

The limiting factors are:

1. the pipe size through which the device is connected,
2. the amount of data to be transferred to be useful, and
3. the logic / processing power required to make sense of the data.

These factors can be inversely related to some degree. The more processing power and analysis that can be performed in the device, the less data needs to be transmitted.

Having processing power in the device also removes the lag time inherent in any internet communication. However, it will add to the cost of the device.

Great, we simply build intelligent devices. The trouble with this is that many devices are commodity items which we use and then throw away.

Do we really want to pay mega dollars for a light bulb that is capable of analysing its usage conditions, temperature, life expectancy, and to be able to receive patch upgrades? Or do we want a light bulb that can send a request message to a service centre when it has failed?

Some devices may need to transmit sensitive data, for example, health metrics to a patient's doctor. Some devices will require encryption modules to secure transmissions across the open internet. Pushing the costs up again.

The security of IoT devices is a whole body of works being developed. I do not intend to go into it here. Search for some very interesting webinars on the matter.

The possibilities of device and service combinations are endless. What we govern development in the IoT space is the practicality of the combination.

We would not want to go to the supermarket, and have to read through a user guide, covering services level, security provisions, and more, just to select the light bulb which is right for us.

The service catalogue, listing and describing each of these device/service combinations, is the Internet itself. When you have an idea for a great combination, research it, and market it. Good luck with this, there is a fair bit of competition.



What does this mean to Service Management?

Firstly, we need to define what the services are that the device is expected to provide. Define who are the customers. While my 'fitbit' device can tell me a lot about my activities, it can also tell others, who may be willing to pay for access to the data. Well perhaps not my data.

At **Service Design**, define the security and privacy restrictions around the service.

At which point does a service begin/end? This may depend on the logic within the device, and the ownership of the nodes through which any data is transferred. Who is responsible for which elements of the service or supporting infrastructure? If you thought you had a problem with this now, it will only get harder. Get ahead of the game and negotiate these issues now.

Event Management greatly benefits from analysis as close as practical to the source to better determine the point at which deviations can be addressed.

The massive amount of data being generated means the use of Data Pools and Artificial Intelligence (AI), especially in **Incident Management**. Use AI to enact response actions automatically. Such 'responses' are normal operations and outside the practical scope of **Change Management**.

Configuration Management to define Types of CIs (groups) rather than tracking individual devices, due to the volume of data trackable in a CMDB.

Service Management, due to IoT and other factors, in the ever-evolving technology world, must morph into a discipline of defining the services, value and customers. Technology of the infrastructure supporting the service will become more remote to the governance of any service.

Planning, designing and marketing a service will be the critical elements of competitive advantage. Imagine the supporting technology, and it can be built, often within hours!

More than anything, Service Management needs people with a whole new way of thinking.

That is scary and exciting at the same time.