Nubeprint REPORT

MPS COMPLIANT - ANALYSIS OF PRINTER / COPIER MODELS

July 2019

Introduction

The first Nubeprint MPS Compliance Report was published July 2011. Since then, Nubeprint continues to share with the industry its knowledge of monitoring output printing devices.

Nowadays one can find monitoring tools developed by multiple types of companies: printer dealers, ERP software developers, printer manufacturers or start-ups with no expertise at all in printing or remote service management. Developers without the proper experience in managing MPS contracts end up just offering a monitoring tool useful in collecting only the counters. As a result, a dealer or a service provider will only use it to bill. But 95% of the workload of servicing a printer is managing the supplies. And 100% of the profit of an MPS contract depends on how the supplies are managed, which is something for which these monitoring tools are helpless.

The experience accumulated by Nubeprint after 9 years includes billions of cartridges used to print trillions of pages. Still now, the printer or copier is not self-sufficient for monitoring its activity. An MPS tool designed specifically to manage from remote the needs of multiple printing devices from any vendor is a must for anyone willing to manage a significant portfolio of printers.

The printing market is becoming more and more competitive. All the OEM include MPS services as part of their strategy to lock their customers out from the competition. No one in this sector, not even the wholesalers and distributors can ignore this. There is a common agreement that the price is not the differentiator that will guaranty medium term their business, as there is always someone being able to sell a cartridge cheaper. The solution is therefore service implemented through DaaS business model (MPS, auto supplies replenishment -ASR -).

The MPS business requires features that all transactional businesses lack: the precise control of all the costs. Because this business is about billing pages, the service provider must understand that the profit depends on his capacity to reduce the cost of each single page printed. This business does not require huge warehouses (not even a small one), nor next day delivery capability. The MPS business is a recurrent business that requires investing in IT and having skilled personnel that understands the business and is able to interpret the information to apply corrective actions on the road.

In a world where most medium and large businesses are tied to a service provider, the growth opportunity remains only in attending the demand for ASR or even MPS of the small companies and domestic installations. Up until recently the technology available was not suitable for small customers with no IT knowledge. The latest development launched by Nubeprint solves the problem: the Nubeprint app runs in the cell phones to monitors the printers and to connect with the service provider. It is fully compatible with MPS contracts as much as with ASR services.

The Nubeprint MPS Compliance Report should be of interest to value how complex it is to manage the install base of printers and copiers. Information about the compliance per individual model is available to Nubeprint customers.

The Nubeprint Report is issued annually to facilitate the most updated information and market trends.

Any related question regarding the Nubeprint Report can be addressed to info@nubeprint.com.

Scope and limitations of the analysis:

The analysis focuses on the ability of the printer or copier to provide sufficient data so that an advanced MPS technology can potentially drive the services. The analysis works under the assumption that the data is homogenous and accurate. An MPS activity requires such features. Without them, the service provider would not be able to automate the delivery of supplies, nor keep the control of both the quantity shipped and the quantity used. Though it is known that the largest percentage of the printer's population do not provide data with the minimum quality that is required to manage from remote and automatically the needs for supplies, for the sake of simplicity this Report does not take it into consideration.

The lack of quality of the data that a printer or copier provides is a problem that the industry has solved through a middleware external to the device. The raw data collected from the printer is processed by the MPS software tool, improved before the outbound data is used to take automatic decisions such as shipping cartridges and other tasks in MPS. This, indeed, differentiates those MPS tools that simply collect the data (they are called "monitoring tools") from those with built-in intelligence that cook it and display information ready for decision making. The data quality is used to assign a level of MPS compliance to each printer model, as shown in this Report.

Managing a portfolio of MPS contracts requires two activities: first is collecting the page counter on time and in a format that can be converted into an invoice effortless; second is identifying and triggering the needs for consumables on time and accurately. The first is easy and one can use almost any monitoring tool available in the market (some are free). The second is very complex. It must meet the accuracy that the service provider needs to ship one cartridge at the right moment, not duplicating the delivery and controlling that it prints the number of pages he priced it for. Nubeprint MPS software ensures this accuracy using proprietary algorithms over the raw data collected from printers. The result over the compliance of the printer is shown on this Report (section MPS Compliance for normalized models).

The Nubeprint Report includes an MPS compliant radar graph where each printer manufacturer is positioned. The specific compliance per model is not displayed. Should you be interested, contact Nubeprint for information (info@nubeprint.com). The reader is advised that a high MPS compliant ratio is not enough to ensure a profitable business free from unneeded deliveries of supplies, and toner waste. As mentioned above, the MPS provider must ensure it uses a tool specific to manage the printer and copier needs specific to cost control and automations. This is not possible with a monitoring tool. This, in

short order, will result in higher margins for your MPS, cost per copy businesses and automatic toner replenishment contracts and in a cutting-edge customer experience.

The analysis does not differentiate the type of device as long as the document output is homogeneous: an office printer or copier, no matter what its size is (letter, A4, A3, A0…). As a consequence, the Report includes laser printer, inkjet and solid ink printers, ribbon (including label printers), large format printers (LFP) and a limited amount of garment printer models. For the sake of simplicity, the report does not differentiate this type of printers from the document output devices unless specified. This does not impact the quality of the information, because the small number of garment printers models included in the report have the same needs (use or ink cartridges) and can benefit of the services inherent to a monitored contract or an MPS contract.

This edition includes products from 54 manufacturers. Though some of the companies have merged or simply disappeared, there are still products in the market, and therefore they are treated independently for the purpose of a clear MPS compliance analysis.

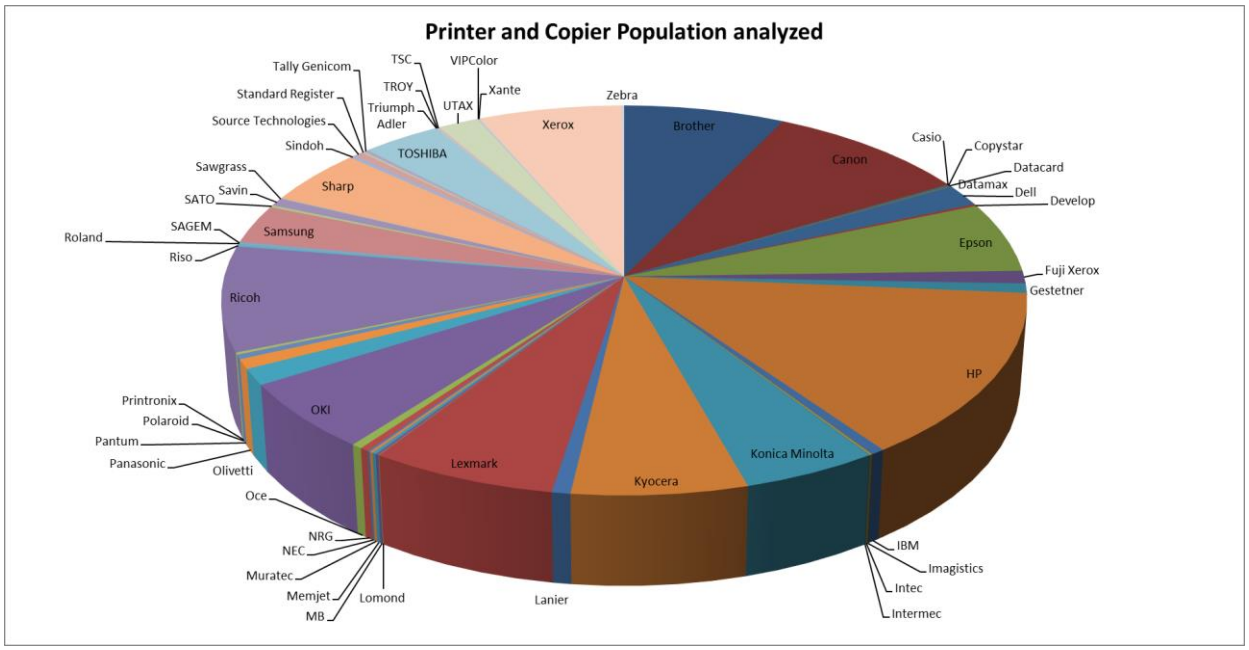
The number of LFP and Ribbon equipment remains small compared to the office printers and copiers, though there seems to be a trend to include one and the other in many offices. The garment printers were very residual 2 years ago. Nowadays they can be found more and more often in some businesses. End-customers are finding the management of all these devices to be a burdensome and are requesting the MPS service provider to handle these devices. Having a robust solution to successfully manage these devices becomes a way for the dealer to gain new customers and protect existing ones.

Most of the monitoring tools in the market can only provide information for just copiers and printers of some models and limited to toner. This analysis is done by Nubeprint using the data or the fleet managed with Nubeprint management tools. Therefore, the conclusions of this report shall only be considered applicable to your own situation if you are using a valid Nubeprint license. If this is not your case, you are currently assuming other risks that are seriously impacting the costs of your MPS contracts.

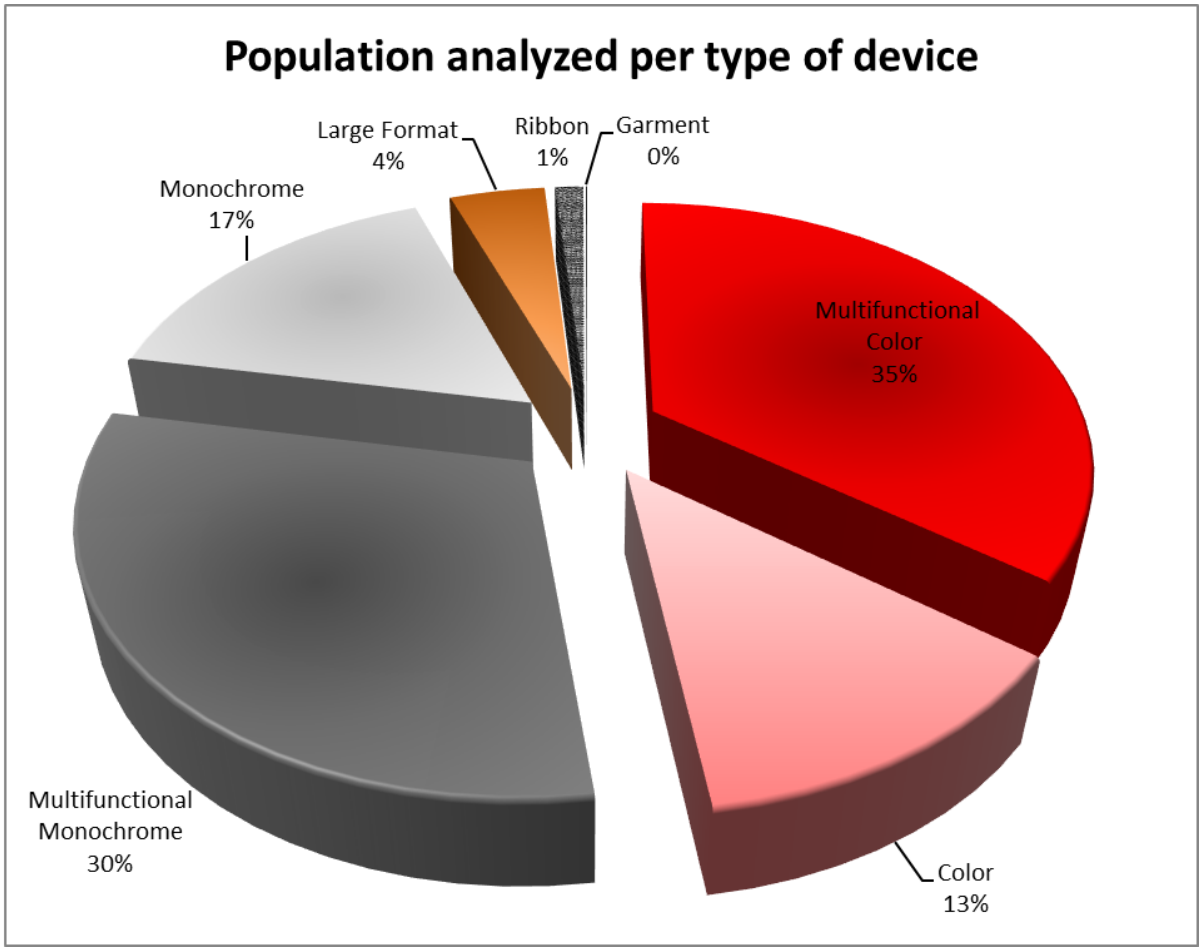
Population:

The analysis was conducted over 4,100 family models of document output device selected among the most commonly found in the office market. For the purposes of this Report, if a family is composed by 5 models, the Report is bundling them into one. As a consequence, the Report includes over 20,000 different manufacturer models.

The models analyzed are classified in 7 different types: monochrome printers, color printers, monochrome MFP (multifunctional including copiers), color MFP, large format printers (LFP), ribbon printers and garment printers. 65% of the population analyzed is MFP while 30% are printers, 4% are LFP and 1% is ribbon, and, for the first time, we have incorporated some new garment printer models. Overall, 51% of the population analyzed is color and the remaining 49% is monochrome. The growth of color printers seems to slowdown comparing with previous years trend. Still the penetration of color in the global install base keeps growing firmly.



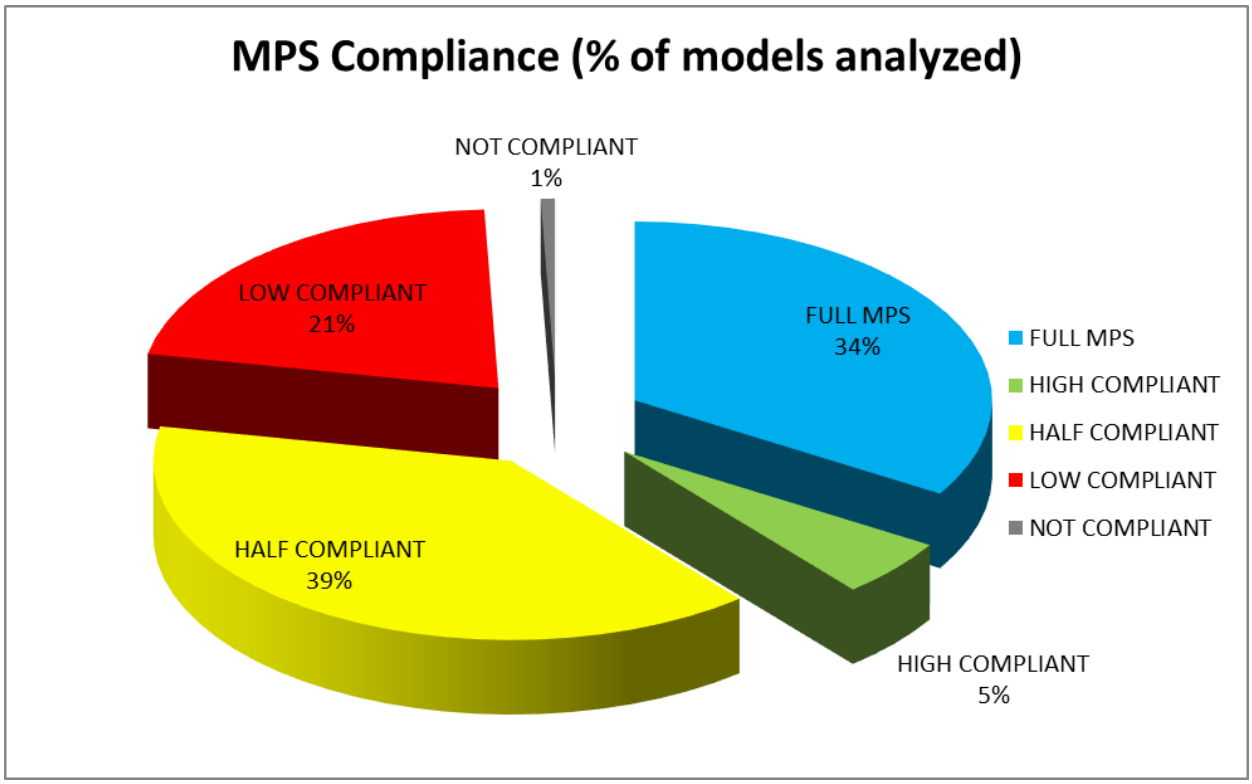
Each one of these 7 types of devices can be included in an MPS contract and can potentially be managed using and MPS management tool. The vast majority of models use laser technology though the ink models have found a discreet place for professional use. The initial issues of ink in terms of actual durability of the cartridges (see the Nubeprint Report July 2018 edition) may however have had a negative influence in gaining market share quicker.


Population analyzed per type of device
Large Format 4%
Ribbon 1%
Garment 0%
Monochrome 17%
Multifunctional Color 35%
Multifunctional Monochrome 30%
Color 13%

Market compliance:

Overall:

Overall, most of the printer models in the market have a problem of compliance to MPS. The lack of relevant data and coherence limit the capacity to manage the costs of an MPS contract, reason why the data collected from the printers and copiers must be cooked and fine-tuned to address distortions before being able to use it for tasks such as distributing cartridges automatically, or identifying those type of cartridges that ensure the best performance for each customer. The amount of models that provide enough relevant data is as low as 34% (which still needs to be cooked using advanced AI before it is useful). 1% of the models do not provide even the most basic data fields to be able to remotely manage them in terms of supplies needs, and must be excluded from an MPS contract (see graph bellow)). LFP and ribbon printers are the biggest contributors to non-compliant MPS printers as shown on graph on page 10.

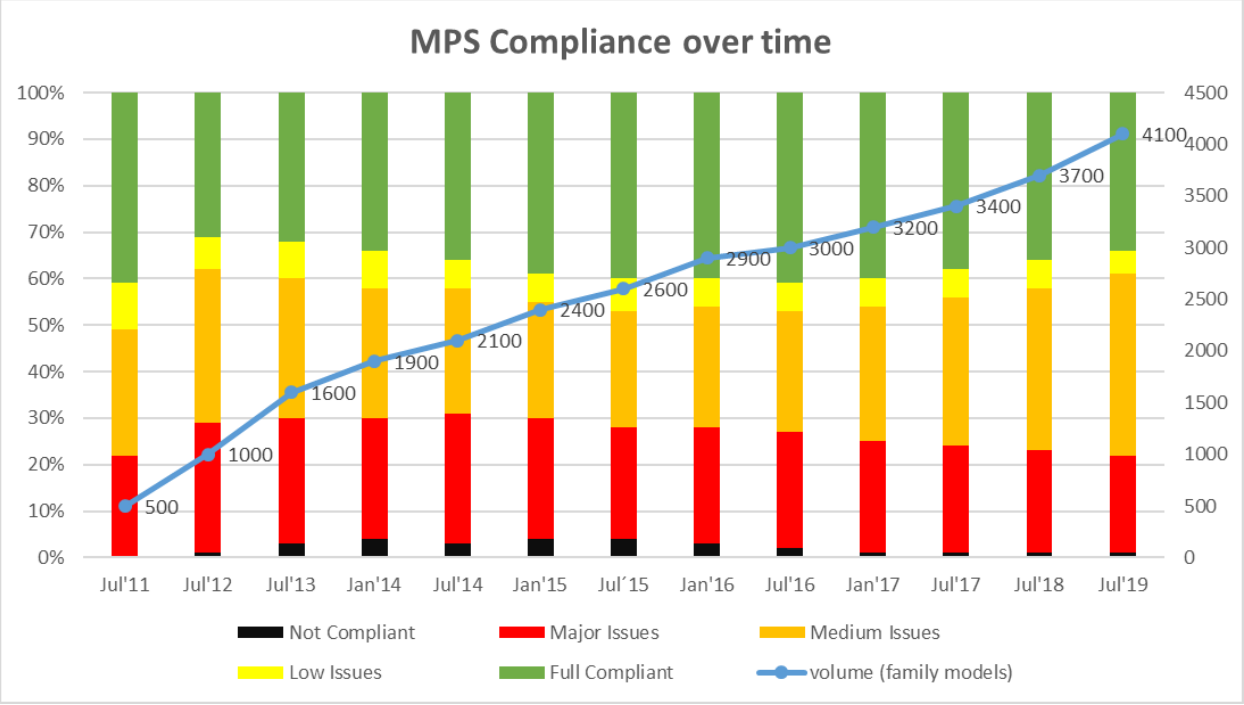


The percentage of non-compliant models has continuously decreased since Nubeprint started to publish this Report in 2011, proving the effort of the device manufacturers to improve the remote connectivity for managing their printer and copiers.

Consequently, 61% of the printer and copier models experience significant limitations that cause high risk in terms of profit and customer satisfaction in MPS contracts managed. Such limitation prevents a service provider to deliver a full service. But most limitations are cleared using advanced predictive technology and data processing algorithms that are embedded in an advanced MPS software.

Trend of the global compliance

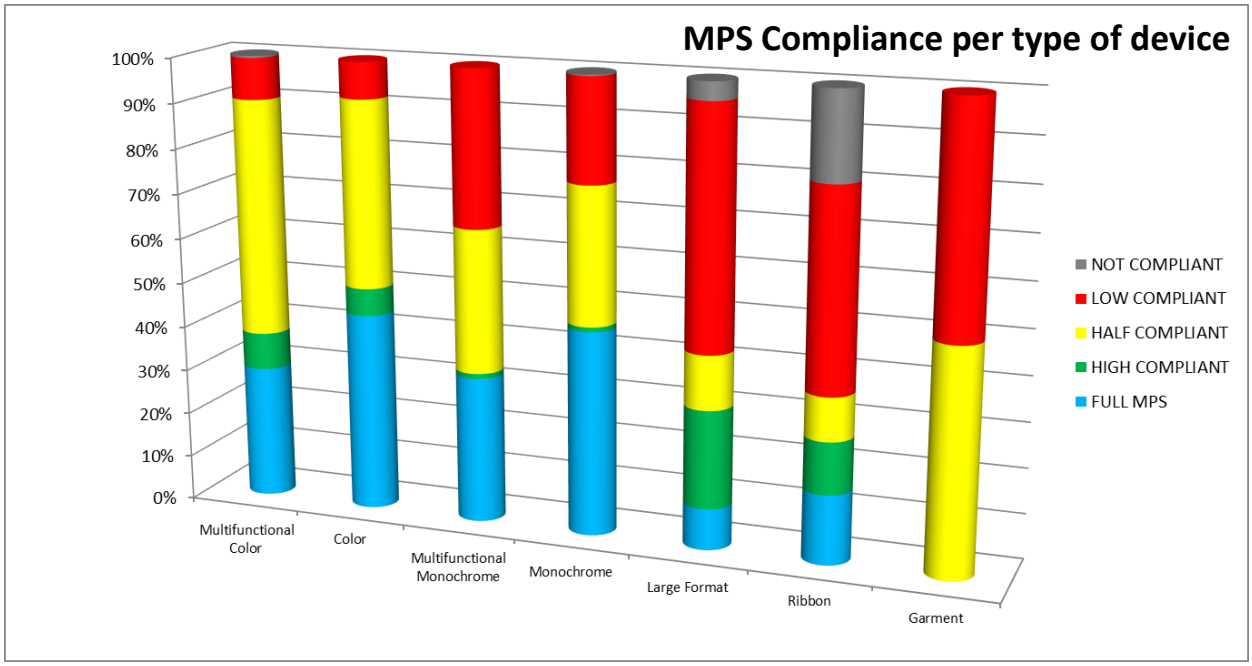
Overall since 2011, the percentage of models with relevant issues on compliance decreases since 2015 from 30% to 22%. Surprisingly, the percentage of printers being fully compliant is decreasing from 40% in 2015 to 34% in 2019. What the graph bellow is showing is an important growth of the printer models with low and medium issues in their compliance, from 34% in 2015 to 44% in 2019.



This trend must be interpreted in the sense that most of the latest models incorporated to this Report are classified as showing medium compliance issues. Most of them are printer models launched during the last 18 months. The conclusion here is that the printer manufacturers are now more sensible to allow their printers to be monitored. But still, in most cases they are not fully facilitating this task. It is known that some manufacturers pretend to make it difficult to collect certain type of data, and as a result, they penalize their own customers by preventing them to get a good service from remote.

Per type of device

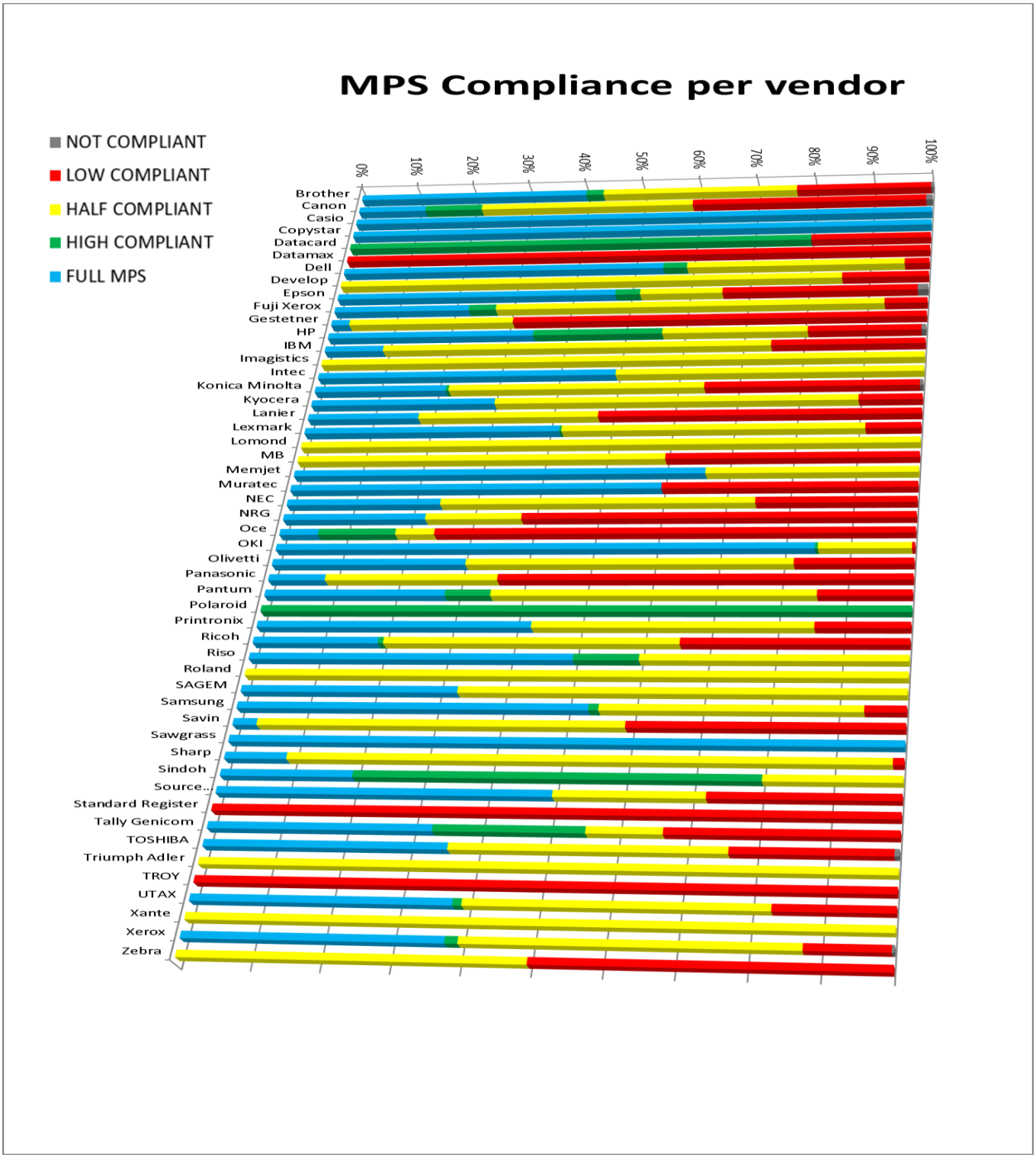
When accessing the details of the compliance, it seems very evident that the manufacturers follow different strategies that are not always consistent over time. On one side they try to facilitate the remote management of their devices, but on the other side they try to build barriers, very likely to ensure that customers only buy their supplies. But the consequence is negative for those providing MPS services with a monitoring tool: the deliveries duplicate and are executed at the wrong moment, ending up on a bad service and damaging the profit of their MPS contract.



Another trend observed is the intent of some OEMs to provide data that would only be visible when using their own MPS tool. This is now having a negative effect medium term on their positioning in the market. It is well known that the market is multi-brand now more than ever. Forcing the MPS provider (in most cases a dealer) to either use multiple tools (one for each brand) or to abandon the business of managing 100% of the install base in a customer is a strategy that weakens the Dealer.

Per manufacturer:

The chart below provides what the MPS compliance is for different models analyzed for each manufacturer.



MPS Compliance:

The radar graph determines how each manufacturer is positioned compared to others. The Index considers each printer model limitation based on its influence on the quality of services in an MPS contract. For example, the weakness that implies not providing sufficient data to manage the black toner cartridge replacements is considered more critical than a weakness related with the fuser, as the toner life cycle is shorter and therefore it requires more attention from the MPS provider. The limitations are also weighted based on their impact on the profitability of a contract and the quality and automation of the service delivered under a Contract.

An MPS service is based on 3 major aspects: the quality of the service, the control of the costs and the automation of recurrent tasks (which goal is to reduce the workload at the service desk and the human errors). The service provider wants to obtain the highest profitability through efficiency gain and the reduction of costs. Such goal can only be achieved if the effort that the service provider must dedicate to manage the printers and copiers is inferior to the gain. The more compliant the devices are, the less effort is required.

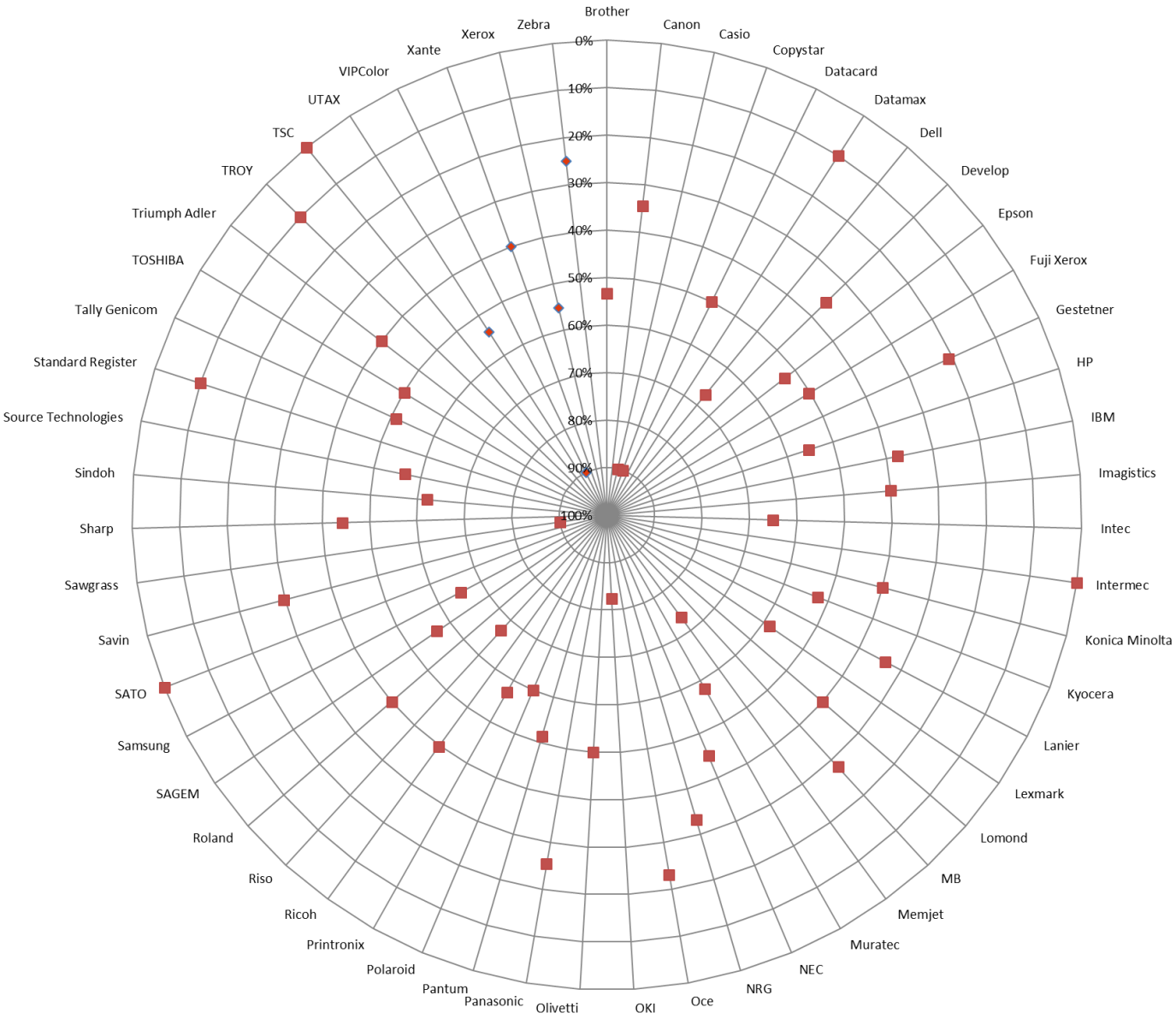
The MPS activity is composed by the following chain of tasks where *Monitoring* is just the first one:

Monitor → Predict the needs → Ensure the availability of the supply → Identify the need → Initiate the process of replenishment → Control replenishment is successful →Measure the performance of the replenishment process → Correct the deviations from expected results.

This whole chain of processes is repeated for every cartridge of every printer or copier every time. So, wouldn't you want to automate it?

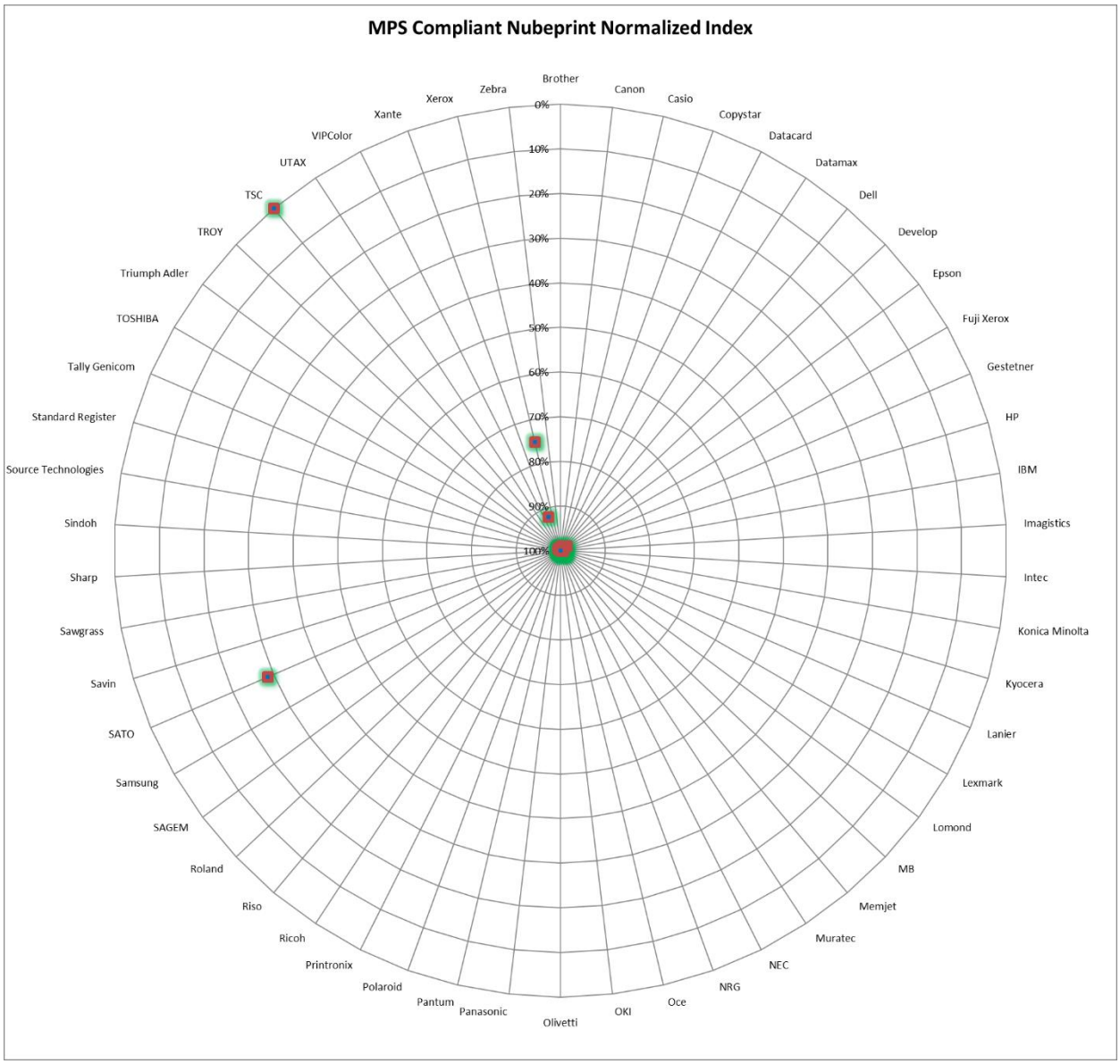
This report shows how evident is that the printers or copiers per se do not provide the information that a service provider working from remote needs in order to address its needs in a proactive and efficient manner. By the observation of the radar graph from bellow, the reader realizes how difficult it would be for an MPS provider to use a plain monitoring tool to handle his business where there are printers and copiers from multiple vendors, and where the availability of useful data is very different from one to another. Each printer or copier model performing differently from an MPS perspective, the MPS provider must have a different attitude depending on the model he is managing. But this is solved by Nubeprint MPS solutions that fills the gaps of each model and homogenizes to always provide the best information, no matter who the manufacturer is.

MPS Compliant index



The usage of advanced MPS technology such as Nubeprint minimizes the effort by filling the information and accuracy gaps that cause the lack of compliance.

When Nubeprint MPS technology is used, the compliance of the different manufacturers looks very different: see below. Most manufacturers are now close to 100% compliance. This is obtained by using advanced algorithms and ML (machine learning) technology that works individually with every weakness of each printer, therefore, resolving it.



With the proper MPS tool, the service provider can automate the recurrent tasks (such as delivering the supplies, collecting counters, billing counters) and focus on control tasks, such as verifying that the cartridges perform as expected, identifying those printers that drive the profitability and those that are causing losses.

Definitions:

Managed Print Service Association defines "Managed Print Services is the active management and optimization of business processes related to documents and information, including input and output devices".

MPS compliant status is the ability for a document output device to be fully serviced by a service provider remotely with zero intervention from the printer or copier user. As a consequence, only network connected models are considered.

Each device is graded according to the following criteria:

- *No MPS:* a device model that does not provide relevant data that will allow remote and automatic management of the device. This device model cannot be part of an MPS solution.
- *Major issues:* the device has limitations to the extent that it produces a severe impact on costs control and therefore on the profitability of an MPS program with this printer/copier model. MPS full automation of the workload is not possible if just working with the device model data.
- *Medium issues*: the device has limitations to the extent that it has an impact on costs control, although the impact on the profitability can be limited. MPS workload automation is only partially possible if just working with the device model data.
- *Minor issues:* the device has limitations to the extent that it prevents from providing certain MPS services. But still most of the MPS workload can be managed automatically.
- *Full MPS compliant:* the document output device model can be fully managed in an automated way for MPS. Costs and profitability are under control. Workload is fully removed (tasks can be automated).

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