

The Cloud

It may be the savior of the office technology industry

by: Dennis Amoroso, Dendog Strategy Insights LLC

As I write this article, we are in the midst of one of the more challenging pandemics in our history. Of course, other pandemics make COVID-19 look like a runny nose in comparison, but there can be no doubt that the effect of this pandemic is as bad as any when considering the economic impact — not to mention the anguish for those families that have lost loved ones. Thankfully, today's technology — in particular genetic sequencing, artificial intelligence and big data analytics, when combined with a prudent approach by government and citizens — will ultimately help humanity avert what could have been the most deadly pandemic in human history.

While COVID-19 is devastating most industries, its impact on workers and employee dislocation has a considerable impact on the office technology industry. Let's face it, the industry has been under considerable pressure to begin with. For a number of years, we have seen the industry saddled with declining average selling prices for traditional hardware, declining service revenue due to more reliable technology and price competition, and a steady decline in the number of printed pages. With a business model that is tightly linked to clicks (i.e., printed pages), industry OEMs have been engaged in waging battles to capture market share in the hope that doing so would help them outrun the challenges previously outlined. Most have not fared too well and it has been my view (even during my time in the industry) that the pace of decline in pages, sales revenue and service profit cannot be overcome by market-share capture — at least not until many more players leave the industry, an outcome that is not likely to happen anytime soon.

Why, then, do senior leaders at most OEMs think they can overcome today's industry dynamics? The general thinking has been that the industry is on a slow and steady downward trajectory. This has proven to be true. When studying industry dynamics and economic performance, while



we have certainly seen a steady decline in pages and the revenues and profit associated with equipment sales and service, we have not seen anything on the horizon that is a leading indicator that printing and the industry as we know it would fall off the proverbial cliff. Even with the proliferation of digitization and cloud content management systems, the decline in page volume has remained fairly predictable. In many ways, it has created a false sense of security within the industry that the decline can be “managed.” Also, even with advances in display technology and remote teleworking, that watershed event has been nowhere in sight. Does COVID-19 represent doomsday for the industry? When the virus has passed, will things return to business as usual? Of course, no one has a crystal ball, however, you would anticipate that when things get back to “normal” the office technology industry will once again focus its energy on trying to capture market share in an effort to stave off continued declines in the page volume that has been the lifeblood of the industry.

Make no mistake, it is not all doom and gloom. Like many

mature industries there are pockets of growth available to OEMs. These include the production/commercial print market, 3D printing, packaging, textiles and the more mundane shift to color output. The only challenge with these growth opportunities is that virtually all OEMs are investing in these areas. Before too long, we are likely to see a commoditization of offerings, making these markets less attractive than they are today. Let's face it, the industry is in need of some serious innovation.

If we look at the industry over the last 10 years, it is difficult to pinpoint where the industry has really innovated. Yes, we have seen technology make its way into traditional hardware, making it possible to connect MFPs to the cloud and many document-centric software applications. Unfortunately for OEMs, this is now table stakes and provides little ability to command higher selling prices or a unique market position.

We have seen software become a component of most OEM product portfolios. Again, this is a seemingly good direction but, unfortunately, it is not one that is providing enough revenue or profit to overcome the bleeding that is occurring in the traditional business. Unlike the innovation we experienced in the late 1990s, where some enterprising OEMs realized that traditional office equipment would provide better value if functionally combined, and also had the foresight to recognize that such technology would need to be networked and linked to software to aid in improving business workflows, today we seem to get little in the way of innovation and more "new-and-improved" marketing hype.

Is there innovative opportunity left for hardware manufacturers with respect to today's MFPs? Some would say that ship has sailed. I would say that OEMs that plan on surviving should get back to innovating or their current operations are likely to sink. So, where should OEMs be innovating? What technologies are ripe for helping them create a new competitive advantage?

In my view, OEMs that are serious about innovation and bringing new value to their customers need to be thinking in terms of cloud, product architecture, artificial intelligence (AI)/machine learning and personalized experiences. Let's take a look at each, beginning with the cloud.

Of the focal areas outlined above, the cloud is of most significance because, ultimately, it supports the others. In recent years, we have seen the cloud become the technology infrastructure of choice for the vast majority of IT organizations. Given its ability to reduce IT infrastructure and overhead burdens, its 24/7 availability and the security that has emerged, the traditional approach to IT infrastructure and

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application development/hosting has quickly migrated to take advantage of the cloud. Its influence in providing the backbone for business operations will only continue to grow as more applications are purpose-built to take advantage of the cloud's ubiquity with respect to application hosting, processing power and storage.

Today's OEMs are certainly familiar with the cloud. Virtually all of their

products have some level of connectivity to the cloud and select cloud-based applications. So why then does the cloud represent an opportunity for further innovation? Quite simply, although OEMs have connected to the cloud, they are not fully harnessing the advantages of it in terms of their product architectural designs. They are missing out on the exponential growth of cloud processing power, not to mention the benefits related to content management and storage. This brings us to product architecture.

When the first MFPs were introduced, it was not enough to just integrate the four previously separate office equipment functions (copy, print, fax and scan) and call it a day. How these functions would coexist needed to be considered and how people interacted with these systems required consideration. Of significant importance were processing power and the data-handling mechanisms to ensure that a user's experience when compared to the standalone counterpart was actually better.

Was this easy? Certainly not, but the office technology OEMs drove significant innovation which, ultimately, led to the systems we see in the market today. These systems not only support a user experience we have grown accustomed to, but they have also led to these devices linking to software and supporting embedded, custom-developed applications.

While many of the architectural requirements in existence today were also in existence back then, the availability of the cloud, its processing power and data-handling capabilities — not to mention its software — all represent an opportunity for OEMs to completely rethink product design. For example, is there any reason MFPs require the processing and memory systems inherent in each individual device we see today? Does the printing function itself need to reside in all devices? What about software? Isn't today's cloud environment capable of being the hosting mechanism for the majority — if not all — of today's typical MFP software functions?

When looked at through this lens, it is clear to see that enterprising OEMs have the ability to dramatically alter their current product designs and, in doing so, eliminate many of the redundancies we see in today's technology, while at the

same time driving enhanced value to their customers. While this represents a clear technology innovation opportunity for OEMs, the business model opportunities are significant and hold the hope of eventually helping OEMs to extract themselves from a business model which, today, is intrinsically tied to the number of pages printed.

What about AI and its offspring, machine learning? Is there any doubt that this technology has a place in the general office and as a compelling part of the technology used by workers to work with and manipulate data and information? AI, or as I like to call it, the “creator” of the future office, is already having a dramatic impact on our daily lives. It is only a matter of time before this technology is tightly integrated into most software applications we use, and with some clever thinking, becomes a fully functional capability available via the cloud and served up on your average piece of office equipment.

This leads us to our last area for potential innovation:

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personalization. The office technology industry has attempted to address some basic needs related to personalization in existing technology. Through user authentication, many of today’s MFPs are capable of serving up custom interfaces to users and, in advanced cases, can even provide or restrict functionality based on a specific user’s profile. Are these functions highly used today? Not to a great extent, however this does not mean

that they are without merit.

When leading the product architecture and design discussions back in the late 1990s, one thing was very clear to a number of us involved. By their nature, people are self-interested. It does not matter the person or the culture — people want to conform technology to work in the way they desire. Designing products to operate in such a manner given the differences in individual preferences and working styles are extremely challenging. Back in the 1990s, the technology to make this possible was not commercially feasible. With the introduction of AI, machine learning and other advanced technologies, today’s landscape is different. Personalization is one of the last innovation frontiers for office technology OEMs and offers huge advantages in differentiation for any OEM that can deliver such experiences in a simple way.

Will the office technology industry embark on a new path of innovation? Today’s industry dynamics would raise questions about whether industry players can make the investments needed to do so. They also raise questions as to whether there is a desire to take a new approach.

Regardless of the choices made by today’s industry players, the nature of any market dictates that a large enough need will be a lure for someone to fill that need.

Will it be one of today’s players? Will it be a new industry disruptor? Looking in my crystal ball, one thing I am sure of is that the future is quite cloudy. ■

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