Total Cost of Ownership of Operating a Digital Signage Network

An Insight by **Real Digital Media**

Understanding How Your Early Decisions

Impact Your Bottom Line

What is Total Cost of Ownership?

In basic terms, total cost of ownership, or TCO, is a financial estimate intended to help buyers determine the direct and indirect costs of a product or system. Popularized by the Gartner Group in 1987, the roots of TCO date at least back to the first quarter of the twentieth century in an attempt to quantify the financial impact of deploying an information technology product over its life cycle.[1]

In digital signage, TCO is a full lifecycle analysis, and should be balanced by measurement of achievement against network objectives. It includes measuring the costs of acquisition, operational expenses and long-term expenses. A closer look at each element provides food for thought as you rollout, grow and maintain your network.

1 http://en.wikipedia.org/wiki/Total_cost_of_ownership

Cost of Acquisition

So what do you need to launch a digital signage network? For the most part, this is fairly straightforward. You need displays, media players, cabling, mounts, shipping and potentially software. A thorough grasp of network objectives, strategies and capabilities should always precede procurement of technology and equipment. That important step will optimize your decisions on acquisition of equipment, software and services. That does not necessarily mean the lowest cost of acquisition will be achieved, or should necessarily be a goal, because integrating the right pieces to enable stated objectives and/or a lower cost of ongoing operations can have greater TCO impact than a marginally lower cost of acquisition.

Historically, going with commercial grade displays has been widely accepted as the best approach. However, over the past few years, the digital signage market has been flooded with hardware player options on both the commercial and consumer side in the form of system on a chip (SoC) displays, Android devices, Chromeboxes and HDMI sticks.

These new entries have found receptive audiences in end user communities, which tend to have a greater focus on upfront investment costs. Every network operator wants to reduce the capital cost of deploying a digital signage network, so it is very easy to feel the pain of network owners faced with a technology buying decision.

The capital investments required for a network are significant, even as prices continue to drop. Every ten dollars removed from the cost of equipping each location can change the projected financials of a network.

However, there are tradeoffs one must make with open eyes if the choice is to pursue the lowest cost of acquisition. There is now enough history in the digital signage industry to learn from, and buyers and CFOs should appreciate the lessons learned from their predecessors and peers. Take note of the Android users who have seen a great percentage of their devices offline on any given day, or those that have to roll trucks to reboot players or to upgrade/patch software. Learn from users of proprietary environments who are hobbled as their content strategies evolve. Have empathy for the support costs of network owners with mixed versions of the “same” technologies and operating systems in the field. Recognize that the life of a commercial display will greatly outstrip the useful life of any chipset permanently embedded inside it. Understand that there is a cost to being a guinea pig for new products, both hardware and software. Being a pioneer has very real risks.

Cheap is not always inexpensive, and those hidden costs almost always reveal themselves in cost of operations.

It often takes courage and diligence to make the case for patience or a higher cost choice, but it is dangerous to ignore the tradeoffs of supporting a low cost path, especially if network objectives and ongoing operations are compromised in the process.

Cost of Operations

Total cost of operations begins after any necessary capital investments are made to acquire the goods and services needed to launch or expand a network. This goes beyond simple acts of procurement, integration and deployment.

Understanding some of the larger “buckets” of operational costs you’ll face when launching a digital signage network is useful and can also help provide the framework for helping you make the right capital investments during acquisition. Here are a few of the important post-acquisition cost drivers:

- Content Management
- Ongoing Software Costs
- Field Service

Content Management

This includes all of the tasks associated with development and acquisition of content, programming, management of content assets, scheduling and monitoring of the network.

In short, content management is people and process oriented, and greatly impacted by tools and services that support both. A clear understanding of your content and network strategy can help develop the processes and identify the tools that will optimize employee utilization and workflow when delivering content. Automated procedures, streamlined interfaces and powerful tools associated with projected tasks can reduce the headcount required for this critical set of responsibilities. The result is a dramatic impact on total cost of operations. Here are a few questions you can ask yourself to gauge the operational costs of content development:

- What are the objectives and characteristics of your content strategy?
- What is the average loop length for your scheduled content?
- Will you be employing day parting?
- Do you require insertion of local content?
- How often will you update your content?
- Are you employing a full screen or multi-zone strategy?
- Is your content ultra HD, high definition (HD) or standard definition?
- Will you require audio, muted or mixed?
- Is the network ad supported or branded/sponsored?
- Will you require integration with internal and external systems?
- What file formats will you be required to support?

Ongoing Software Costs

Software as a Service Licensing

The most common operational cost associated with software relates to subscription fees for software-as-a-Service (SaaS) platforms, the most common delivery method in the industry today. SaaS deployments can certainly reduce acquisition costs, as there are typically no purchase or deployment costs. However, understanding how vendors charge for their service can help you mitigate ongoing operational costs. For example, many modern media players can support multiple outputs. Certain vendors charge by screen (output), while others charge by connection (player). If your network can utilize multi-output players smartly and pay SaaS fees by the player, the ongoing software costs can be as much as 50% lower than a deployment of all-in-one (system on chip or SoC) displays or other architectures that by definition charge by the screen for SaaS. Although multi-output players are more expensive than their single-output counterparts, the operational savings can greatly outweigh any reduced capital expenditure in the calculation of TCO.

Enterprise Licensing

If you have a large network operation (greater than 1,000 end-points) with sophisticated IT capabilities, you may realize significant operational cost savings by considering an enterprise software licensing arrangement. In an enterprise license, blocks of seats are licensed for an upfront capital investment, and the ongoing operational cost is related to maintenance fees that are typically a fraction of SaaS fees plus the IT costs of maintaining servers and a content distribution capability. It is wise to bring enterprise licensing into the discussion to understand your options for that type of arrangement available in the marketplace. So ask your provider if they'd consider an enterprise licensing option.

Field Service

Since digital signage involves electronics, occasional failures in the field will be a fact of your life. Cheap devices tend to skimp on parts that fail most often, such as power supplies and fans. While warranties will cover most equipment failures in the first one to three years, network downtime, truck rolls and depot stock can drive operational costs up. In situations where uptime is mission critical (for example, digital menu boards), redundancy and failover strategies are as essential as warranties. It may be important for you to consider the use of multi-output players and to weigh the external media player against SoC options for mission critical applications. To keep truck rolls and technician time to a minimum, aim for high reliability, clever failover strategies and consider upgraded warranties during the acquisition process.

In a digital signage network, total cost of operations is separate from the capital investments made at launch, yet is closely tied to those upfront decisions. Together they form the basis for total cost of ownership. Savvy operators aim to optimize both at the start and on an ongoing basis.

Long Term Expenses

Replacement and Upgrades

Lastly, the standard lifecycle for most hardware is three years. However, two years into a new network, you are likely to have developed new content requirements that demand more firepower than was designed into the initial equipment purchases. At a minimum, ensure that the software vendor can provide software upgrades and patches over the network. At a maximum, ask if your provider has a buyback program for hardware reaching end of life. You might find there are mechanisms to mitigate the costs of upgrading your network.

Hardware upgrades require more forethought. Displays tend to have a longer useful life than media players, so once again, the lure of the system on a chip (SoC) sales pitch comes at a cost: getting that extra firepower requires an entirely new unit, including the display. If you foresee expanding content requirements, it may be useful to have a separate media player or an OPS-based player-display set-up to ensure a simple upgrade path.

A risk assessment of environmental conditions should also be undertaken. Some questions to ask include:

- Are environmental contaminants such as dust and grease in play?
- Will the players be racked or attached to displays?
- Will your players be indoor or outdoor?
- Is your environment ventilated and/or air conditioned space?

These are just a few of the questions that may impact the lifecycle of your network and the total cost of ownership.

Summary

Return on investment calculations do not stop at your initial investment in your digital signage network. Rather, they must include analysis of full life cycle costs, including identification of benefits and calculation of TCO.

Paying less upfront could cost you much more down the road. Defining your objectives and strategy first will lead to smarter investment decisions in your infrastructure, and put you on a path for long term success with your digital signage network.

About Real Digital Media

Real Digital Media is the provider of NEOCAST®, an enterprise class digital signage platform for managing the efficient distribution of place-based targeted messages and branded experiences across networked displays. Designed intelligently to scale with the growing demands of the digital out-of-home (DOOH) industry, NEOCAST® is a standards-based platform that offers certainty to marketing and advertising professionals seeking a viable long-term solution to meet the current and future demands of their digital signage deployments.

Real Digital Media is a founding member of the Digital Signage Federation.

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