Thought Leadership Whitepaper: Digital Signage

FROST & SULLIVAN

Section 1: Introduction to Digital Signage

As consumers worldwide are becoming more selective about their preferred mode of receiving information, the onus lies on advertisers to seek new and innovative ways to reach them. Reducing attention spans and effectiveness of traditional mass media has led advertisers to turn to alternative marketing vehicles for improved customer receptivity. The Internet has been at the forefront in the last three to four years attracting billions of advertising dollars. Similar opportunities also exist in emerging mediums like Digital Signage that can simultaneously serve a multitude of purposes such as displaying information, advertising, branding and ultimately offer an enhanced customer experience. At the same time, retailers have increased their IT spending annually since 2004, showing a dramatic upward trend in a market typically conservative in its approach toward technology. Specifically, retailers are allocating a portion of their IT budgets toward IP and broadband technologies in order to reduce costs and increase revenues. Further, supply chain and inventory management, data analysis and software tools, which facilitate multichannel customer relationships, are the other main areas that retailers are focusing on to improve their business performance. In this context, the lack of a meaningful media avenue at the point of purchase to influence the customer at his most information-seeking moment has led to a renewal of interest in Digital Signage. The industry is gradually maturing with the entry of cash-rich media conglomerates, merger and acquisition activity and the development of standards for measuring the reach of in-store media.

Key business models for Digital Signage solutions:

- **Merchandising model**
- **Advertising model** Client-funded, or Network operator-funded
- **Informational network model**

Market definition and segmentation

Frost & Sullivan defines Digital Signage as a network of displays that can be remotely managed and whose business model revolves around merchandising or advertising.

The world Digital Signage market may be divided into these segments:

1. World Digital Signage advertising market covering advertising revenues from Digital Signage networks.
2. World Digital Signage systems market including revenue from sale of displays, software, software maintenance, media players, design, installation and networking services.

Market Landscape

The topology for the Digital Signage systems market includes a range of players comprising display manufacturers, Digital Signage software providers, content providers, media player manufacturers, AV integrators, advertising agencies and consulting firms. Key applications of Digital Signage solutions follow four basic models.

The Merchandising / Brand-driven Model

In the merchandising model, single brand content is advertised for information and entertainment. The key is to establish the brand with the customer through appropriate content and add a dynamic visual impact at the store location. This business model is typically adopted by big stores of a single brand, like Nike, Virgin, Coca Cola, Adidas and so on. The ownership of the infrastructure lies with the store owner.

The benefits are in the form of increased sales from advertisement and increase in brand awareness.

The Client-funded Advertising Model
In the client-funded network model, multi-brand content is advertised for the purposes of information, promotion or entertainment. In this model, the ownership of the infrastructure can lie with the mall owner or the owner of a big retail store. This business model is typically adopted by big stores with multiple brands—for example, Wal-mart, Target, Albertson's and so on. The benefits are in the form of increased sales, enhanced brand image and advertisement of partner brands.

The Network Operator-funded Advertising Model
In the network operator-funded advertising model, the network is owned by network operators who get advertisers to use their networks. Alternatively, the network operator can lease spaces in a mall or a shopping complex, manage advertising sales and provide a share of the revenues to the real estate owner. This business model is typically adopted by large billboard sites, subways, bus stations, metro stations and large retail stores.

The Informational Network Model
Examples of this include displays at banks showing stock prices and interest rates, digital menus at restaurants, screens at hotels providing details about room availability, college campus displays with announcements for students and so on. In this model, the infrastructure might be owned by the bank or the hotel or leased from the network operator.

Section 2: Market Trends in Digital Signage

Global market size and forecasts

The Digital Signage display market is expected to see robust growth from its current size through 2012. Sale of display units in advertising applications is set to double by 2012, growing at a compound annual growth rate (CAGR) of 25.8 percent. The merchandising model on the other hand is forecasted to dominate Digital Signage display unit sales, with sales almost trebling by 2012.

Top trends in the Digital Signage market :

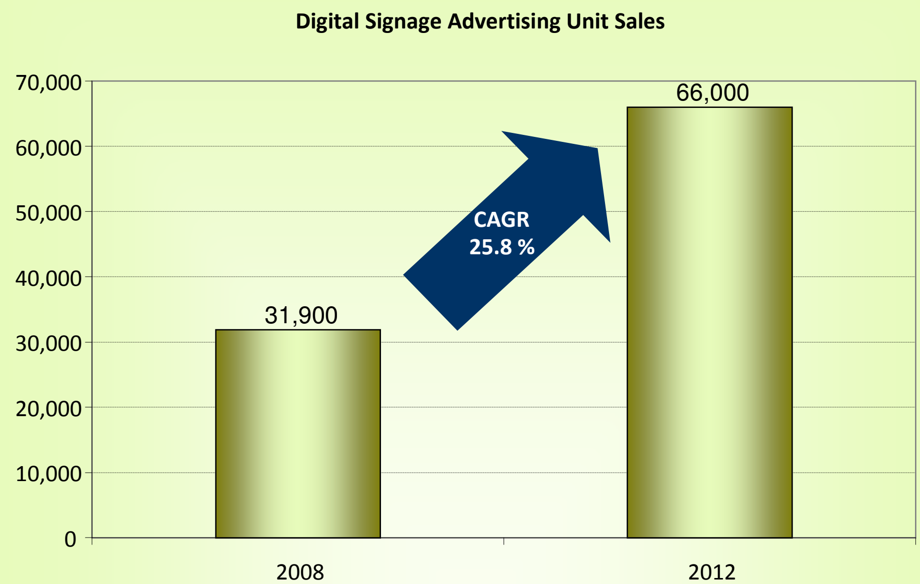
- Shifting attention towards Digital Signage from traditional mass media
- Digital signage technology evolves media buying standards and terminology

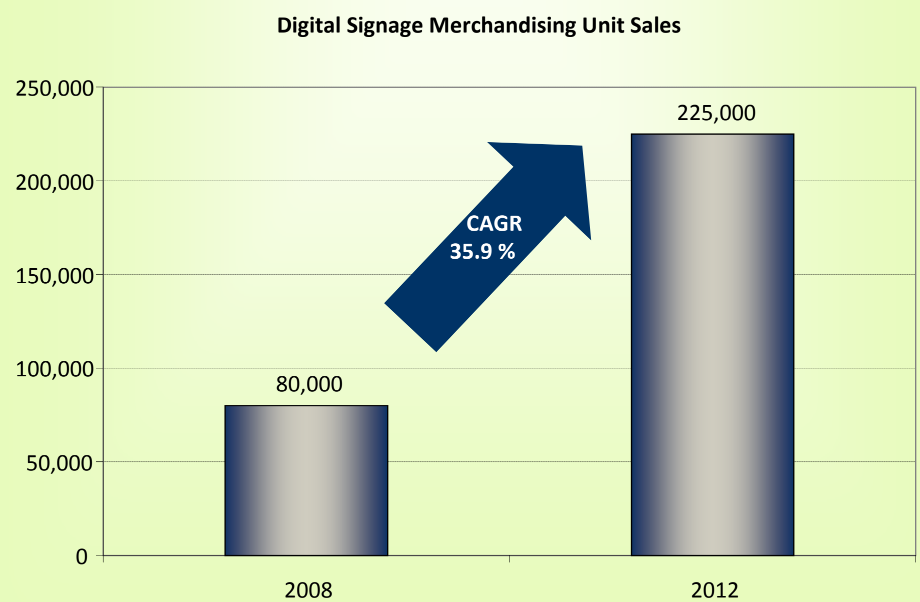
Top Trends

Shifting attention towards Digital Signage from traditional mass media
The effectiveness of traditional mass media as an advertising medium has been steadily on the wane over the years. Dwindling attention spans and lack of sensitivity towards mass advertisements has meant that advertisers need to deliver engaging content that is relevant to the specific target audience. Media planners are now skeptical about the perceived reach of media like television, radio, magazines and

newspapers. For instance, close to ten percent of homes in the United States had a digital video recorder (DVR) in 2007. Studies reveal that almost five percent of the advertisements played during television shows are being skipped at present using DVRs. This percentage could rise significantly along with the further adoption of DVRs, which is estimated at around 30 percent of American households at present.

Digital Signage display market: Units sold by business model





Unit sales of Digital Signage displays set to grow at high CAGR from 2008 to 2012.

Advertising model: **25.8 %**
Merchandising model: **35.9 %**

Top trends in the Digital Signage market (contd.):

- Efforts to standardize techniques for the measurement & analysis of in-store media
- Digital signage systems gaining traction in the retail sector

Establishing Digital Signage standards and terminology

The fledgling Digital Signage industry has been faced with concerns over the lack of established media buying standards and measurement systems. A further challenge has been the low level of consumer awareness about the industry as a whole. Digital signage is a complex undertaking and the value chain includes a variety of participants ranging from display providers to AV distributors. Until October 2006, there were discrepancies even in non-technical standards such as terminology. For instance, the phrase Digital Signage is prevalent in the United States, while Europeans address their systems under the name 'narrowcast networks'. Other names used by market participants include digital media networks, in-store TV networks, captive audience networks and so on. The first industry standard for the Digital Signage industry was released in 2006 by the Digital Signage Standard Committee at the Point-of-Purchase Advertising International (POPAI), the non-profit industry organization for marketing at the retail level. The committee consisted of representatives from many major vendors of Digital Signage systems apart from POPAI itself. The standards document provides a Digital Signage Reference System, a diagram depicting a typical configuration and content flow in a multi-site Digital Signage network. The committee initially defined ten key industry terms. Digital signage was defined as a network of digital displays that are centrally managed and addressable for targeted information, entertainment, merchandising and advertising. These recommendations have, to some extent, dispelled the confusion that surrounded the terminology employed in the industry and created universal standards.

Increasing maturity of measurement techniques

The industry has been boosted by the announcement of two parallel projects aimed at standardizing measurement and analysis of in-store media. Point of Purchase International (POPAI), the retail marketing trade association, initiated its own study to understand consumer behavior and the role of digital media in the marketing mix. The studies were pioneered by the Marketing at Retail Initiatives (MARI) and the initial proof of concept was conducted in the United Kingdom at Morrison's and Wal-Mart stores. Recent efforts include a release of recommended audience measurement metrics by the Out-of-home Video Advertising Bureau (OVAB) which include such parameters as average unit audience, average ad audience, frequency and reach measurement among others. While the success of these ventures is not guaranteed, it should facilitate to an extent in bringing Digital Signage in alignment with traditionally measured advertising channels like TV or radio, and further in developing unique return on investment models for Digital Signage deals.

Retail stores using Digital Signage as a channel to reach customers at Points of Purchase

Retailers have recognized the need to proactively communicate with their customers through multiple channels to align their in-store and online sales targets and achieve profitability. Due to the increasing competition and erosion of customer loyalty, retailers are looking at a variety of options to attract new customers besides retaining the existing ones. Digital signage becomes relevant in this context since it is a highly customer-centric medium that can influence their shopping behavior. Inside a retail store, branding, advertising and promotional messages can be delivered to specific customer demographics in real time while they are making their purchasing decisions. Given that more than 75 percent of all purchasing decisions are made inside store premises, the effectiveness of targeted advertising at the point of purchase (POP) cannot be ignored in the marketing mix. Digital signage can serve to enhance brand awareness, communicate specific product promotions or even provide entertainment on a routine shopping expedition. Ultimately, what sets Digital Signage apart from traditional static POP advertisements is the ability to dynamically modify content to as frequently as necessary to be relevant to the changing customer profiles at specific locations in the retail store.

Section 3: Digital Signage Technology Trends

Top technology trends in the worldwide Digital Signage market :

- Prices of Digital Signage hardware dip with rapid developments in technology
- LCD displays grow swiftly in popularity over plasma screens

Declining prices of Digital Signage hardware

The heavy cost structure of Digital Signage hardware, including displays and media players have been a deterrent to wide adoption of the technology. This has however seen significant change over the years with hardware prices consistently declining. The fall in prices has paralleled the rapid developments in display screen technology from plasma to LCD displays. Furthermore, manufacturing plants are progressively streamlining processes, expanding and as a result, making larger screens more affordable and economical to produce. The media player market is expected to demonstrate a similar trend as more players set foot into this space. From 2004 through 2008, the prices of Digital Signage displays have slumped by 23 percent, while those of media players dipped by 20 percent over the same time period.

LCD displays taking over plasma screens

A key trend set to impact the technology landscape of Digital Signage systems is the cannibalization of LCD displays on the popularity of plasma screens. Rapid R&D work fuelled by growing competition in the market has offered LCD screens a host of advantages over their plasma counterpart. LCD screens are scoring over plasma screens in reduced thickness and weight, increasing longevity and flexible mounting options over and above better manufacturing processes. Many major vendors in this space have even announced their switch to LCD panel manufacturing from winding up the plasma shop entirely.

Furthermore, about eighty percent of global flat-screen R&D spending is being allocated to LCD displays, while plasma and other technologies take the remaining twenty percent. With the low cost of manufacturing and additional technologies coming on board, the advent of LCD panels in a big way is set to boost adoption of Digital Signage systems with a variety of applications.

Top technology trends in the worldwide Digital Signage market (contd.):

- Evolution of content developers for Digital Signage media
- Greater customer interactivity as Digital Signage supports newer advertising models

Content development for Digital Signage vis-a-vis home usage

One of the stumbling blocks in the evolution of Digital Signage as a viable medium to communicate with the target audience is the perception among many brand managers, content providers and network operators that their TV advertisements would be as effective on an in-store display. While a TV ad typically runs for 25 to 40 seconds, a promotional message on a digital screen needs to be less than 10 seconds to retain the consumer's attention. This throws open the technology landscape of the Digital Signage industry to more content developers as ads need now be focused, engaging and strategically placed at the right location to motivate the shopper into making a buying decision instantly. In comparison, a TV ad is aimed at building brand awareness and recall for a shopping trip at a subsequent time. These subtle differences must be taken into consideration while creating specific content to exploit the potential for digital screens as an effective in-store marketing vehicle. This was further borne out when Tesco TV, the biggest Digital Signage network in the United Kingdom, was rebranded as Tesco Screens. The company also moved away from TV-style spots to a POS model in terms of content in recognition of the fact that consumers do not put in the cognitive effort they do for a TV advertisement.

Shift towards greater interactivity

One of the factors holding back the growth of Digital Signage networks is the unavailability of universally accepted measurement standards that can help brand managers and retailers better assess the exact reach of their digital media investments. Although GRP ratings, traffic details, impressions and others can be statistically aggregated, it still does not provide any insight into whether the viewers found the messages engaging and influenced them in their purchasing decision. It is in this context that the interactive and highly dynamic nature of the Digital Signage medium can play a crucial role. In a shift in mentality from buying advertising air times well in advance, Digital Signage offers media planners the flexibility to buy their slots at short notice and fine tune their content to respond in real time depending on the audience demographic. Digital signage can support new business models such as event-based exposure that can correlate the delivery of relevant promotional messages in a personalized manner. Interactive signage systems can offer a greater degree of spontaneity to the customer experience while also providing the advertisers insights into the number of people who viewed their message and the extent to which it engaged them. For instance, Borsheim's, one of the world's premier high-end jewelry stores, engaged in an initiative to equip its Omaha showroom with a dynamic Digital Signage system. The signage was positioned strategically behind the watch display and the gift-wrap counter. The arrangement includes a 4-screen video flush mounted to the wall behind the counter that plays the stores' branded messages besides content from its product manufacturers. Further, the salesperson behind the counter is also equipped with a 15-inch touch screen that he can use to trigger specific content depending on the brand the customer is looking at. This level of interactive content can be a win-win for all parties involved, especially the customer who enjoys a unique experience at the store. It also enables marketers to understand their clients' needs while allowing them to only look and interact with information they are interested in. Major brands are also looking at innovative ways to utilize the unique appeal that massive electronic billboards provide for their audience. Calvin Klein, one of the world's leading designer brands, recently created a new concept for engaging consumers during the launch of its new fragrance, IN2U. Mobile phone users at the central location of Yonge-Dundas Square, located adjacent to the busy mall, Eaton Center, were encouraged to voice their opinions via phones on to three large digital billboards. The question 'What are you in 2?' was shown in 20-second ads for a period of two weeks and respondents saw their messages run live across the three huge billboards. This generated sufficient buzz for the product when it was subsequently launched.

Section 4: Adoption Trends

Customers Looking for Genuine Turnkey Providers

The overall perception about the Digital Signage industry from a customer standpoint is that it is a complex and laborious undertaking. The medium is unfamiliar and there are a plethora of vendors offering displays, software solutions, media players, consulting services, content management and application design and so on. Besides these, the potential retailer or mall owner also needs to consider the costs and effort involved in setting up a network and maintaining it. Acceptance of Digital Signage will grow rapidly as genuine turnkey providers emerge, taking charge of the entire project management aspect from the concept stage. Solution providers are developing expertise in back-end research and in having an in-depth understanding of the client needs. They are also proactively participating in content development strategies since the majority of prospective clients have limited experience in dealing with this medium.

Trends by Vertical

Top vertical trends in the worldwide Digital Signage market:

- Retail sector looking for alternatives to traditional mass media using Digital Signage
- Government and retail sectors account for about 50% of Digital Signage market in Asia
- Growing deployments in airports and cinema complexes

Retail stores reach customers at Points-of-Purchase with Digital Signage

As advertisers and retailers grow more concerned about the waning impact of traditional media like TV, newspapers and magazines, they are looking out for innovative new media to grab and retain the declining attention spans of their consumers. Digital signage is gaining prominence in this light with many major global retailers like Wal-Mart and Tesco spearheading deployments while local retail giants in Asian markets are also following suite. Many new malls and other retail outlets in Asia are also incorporating Digital Signage systems into their design, factoring in foot traffic and real estate rates. An interesting development is the growing efforts for standardization in the industry at a time when a financial crisis compels advertisers to turn to more economical, practical and sales-oriented media. While new media such as Digital Signage may come as timely solutions, the lack of unique measurable metrics poses a challenge for rapid adoption. Nevertheless, the technology's immense potential for being tracked and analyzed simply by virtue of being digital should spur uptake.

Government sector early adopter of Digital Signage

Verticals such as the government and retail sectors account for nearly 50 percent of the revenues derived from Digital Signage systems in Asia. Governments in China, Singapore, Malaysia and Thailand have already made major investments in adopting Digital Signage or are in the process of finalizing deals. The key applications include public notices, real-time weather and forecasts, public television systems while waiting in government agency premises, propaganda through documentary films and so on. Digital media suppliers have installed streaming media platforms for various government agencies in many regions. These agencies include city level government bodies, taxation bureau, environment protection agencies, industrial and commercial supervisory agencies, police departments and so on.

Growing adoption form transportation and entertainment sectors

Airports and cinemas have seen Digital Signage deployment successes in some regions as they offer exposure to a large traffic of passengers every day. Some other deployments include interactive digital menu board installations at theatres and concert halls. While these deployments are fewer in number, the demonstrated success of a few is expected to grow their numbers.

Trends by Geography

Government and Retail Sectors in Asia are Key Adopters of Digital Signage Solutions

The Asian market has been identified by investors worldwide as one with great potential for growth in the coming decades. Governments in China, Singapore, Malaysia and Thailand have already made major investments in adopting Digital Signage or are in the process of finalizing deals. The National Museum and National Library in Singapore account for some of the key deployments in this region. The retail sector is also emerging as a main driver for growth in Asia and is typically adopted by big shopping malls and grocery stores. The key markets are Hong Kong, Malaysia, China and India. In Malaysia and Hong Kong, most upcoming shopping malls are actively considering Digital Signage at the design stage itself. The merchandising business model is most prevalent while the advertising model is gaining prominence at a slower pace. POP advertising is one of the key applications, which includes running instant offers at the store for a specific period of time, general advertisements of products by the retailer, and information display.

Top regional trends in the worldwide Digital Signage market:

- North America leads adoption of Digital Signage systems
- EMEA and Asia Pacific show high potential for Digital Signage systems deployments by 2012
- Latin America set to increase adoption with a few significant deployments already in place

Outdoor electronic billboard deployments gaining momentum in North America

The outdoor advertising industry is witnessing rapid growth in North America. This growth is driven by market transition from print and radio advertisements. The traditional outdoor advertising market comprises four types of advertising, namely billboards, street furniture, roof mounts and auto wraps in transit modes and spectacular displays with movement, flashing lights and sounds. The last four years have seen tremendous advancements in the US market in terms of deployments of large outdoor display digital billboards. The market is evolving rapidly as advertisers move away from the static printed billboard model to the more engaging and attention grabbing digital displays. Electronic billboards provide the biggest advantage to advertisers by empowering them to manage content remotely as frequently as necessary without the need for cumbersome manual labor. Major brands are looking at innovative ways to utilize the unique appeal that massive electronic billboards provide for their audience.

Buoyant economies in Latin America encourage Digital Signage investments

Latin American countries seem to have recovered from the economic downturn that hit the region in 2002. Brazil, Mexico and Argentina represent the countries with major potential for growth in the coming decade. The governments in these regions have been proactively involved in overhauling the existing legacy systems and replacing their IT infrastructure with the latest technologies. Consequently, the region provides an exciting opportunity for stakeholders in the Digital Signage industry as they roll out initiatives to explore the media value of this market. Airports and cinemas have been the initial deployment successes in Brazil. In partnership with the national aviation authorities and Digital Signage software provider Scala, a local network provider installed several 42-inch plasma screens at the airports in Rio de Janeiro and Sao Paulo, reaching more than a million passengers every month. Similar signs have been installed in airports in Argentina as well. Allure Global Solutions recently installed its interactive digital menu boards at the PlayArte theatre in Sao Paolo, the first venture of its kind in the region. The outlook for the retail sector in the region is also quite positive.

Section 5: ROI Analysis

Building a business case for Digital Signage adoption

Digital signage systems have yielded positive results, largely in in-store retail deployments. An overview of the benefits over traditional advertising media is offered below.

Increased Sales
- Influence on customer buying behaviour
- Ability to attract and engage potential customers
- Increase in awareness of products and services
- Increase in shopping transaction volumes

Additional Revenue Streams
- Sale of advertising space
- Commissions on sales through Digital Signage networks
- Fees from media network operators for renting display locations

Brand Enhancement
- Increase customer loyalty through better shopping experience

Cost Savings
- Increase in throughput of content creation and distribution
- Reusability of Digital Signage network infrastructure

Research by Point of Purchase Advertising International (POPAI) has shown that moving images are seven times more likely to be noticed than static images. Such findings show a significant correlation between product advertising via Digital Signage and customer behaviour. For example, 7-Eleven in Denmark has seen a 300 percent increase in sales on a new phone card, generated by a campaign running on their in-store digital screen networks.

There are many benefits of Digital Signage systems which are further strengthened by sound case studies in the retail sector. Nevertheless, there is still an uncertainty about this technology among end customers due to the unavailability of universally accepted measurement standards that can help brand managers better assess the exact reach of their digital media investments. Of the prevalent business models for Digital Signage deployments, the two advertising revenues-based models lend themselves for easier measurement of returns on investment (ROI) than the brand-driven or informational network models. This is because the existing frameworks of metrics used to analyze traditional advertising media may be employed for Digital Signage systems as well. While such a treatment of Digital Signage as another in-store advertising medium may not be in tandem with most vendors' desired positioning of the technology, it does offer the benefit of quantifiable audience measurement metrics until the industry collectively develops an exclusive set of metrics.

Most retailers have claimed that it is very challenging to calculate the ROI for a Digital Signage project. This is because the purpose of deploying Digital Signage networks varies from one retailer to another. Many retailers use Digital Signage networks as a way of differentiating, rather than as a means of generating revenue. These retailers consider Digital Signage to be a marketing expense, rather than an investment. The diversity of objectives behind deploying Digital Signage also means that there is no industry standard for measuring ROI, or for comparing it with other advertising media. As such, measurement of returns on Digital Signage investments depend primarily on the business model adopted for the technology, varying significantly from the advertising-based models to the merchandising or informational network models.

In measuring ROI for Digital Signage applications under the advertising revenues-based models, typically the following three parties are involved: the client (retailer, real estate owner etc.) in whose premises the system is installed, the network operator or vendor of the technology and the advertiser whose messages are displayed on the system.

There are significant advantages in deploying Digital Signage systems over traditional static advertising media (primarily print media) for both clients and advertisers. Reduction in printing and labour costs incurred through multiple cycles of changes may be considerably offset by the dynamic nature of network based Digital Signage systems which make change cycles for advertisements shorter and more frequent, while offering greater control over content. Parameters accounting for ROI for Digital Signage systems may be considered by taking long term and short term measures into account.

Short term measures

- Customer perception of shopping experience before and after the Digital Signage deployment
- Average customer time spent in store before and after the Digital Signage deployment
- Customer loyalty measured by research on where customers shop, measured before and after the Digital Signage deployment

Long term measures

- Projected growth in sales without Digital Signage
- Actual growth in sales with Digital Signage
- Other factors that could have caused the new growth
- The new growth attributable to Digital Signage

While metrics to measure ROI for Digital Signage and compare it with other advertising media are still evolving, an overview of the emerging ROI model in the industry may be seen as follows.

Emerging ROI Model

Increased Sales

- Projected growth
- Actual growth

Additional Revenue Streams

- Cost per thousand viewers
- Cost per impression
- Immediate viewer response

ROI Criteria

Brand Enhancement

- Increased foot traffic
- Increased sales

Cost Savings

- Reduced labour cost
- Reduced production cost

Additional Investments

- Hardware cost (displays)
- Software & maintenance cost
- Media players
- Design & installation

In the case of non-advertising related Digital Signage deployments, namely for merchandising or information relay purposes, measurement of ROI through quantifiable metrics is made difficult. In these applications, a less quantifiable return on objective (ROO) is considered by clients and network operators. Typical applications for information dissemination purposes include government and educational institutions. Parameters to measure the ROO in such cases may include, for instance, comparing change in campus crime rates to relay of messages on safety within the university premises. These applications, along with branding-related applications of Digital Signage rely more on the perceived value of the technology than specific auditable metrics. Nike, for one, is a firm believer in the merchandising model whereby it employs digital signs across hundreds of Niketown, Nikewomen and Nike Factory Outlets to define and propagate its brand and create visual impact at its stores. This brand-centric approach does not place significant importance on tying up investments in Digital Signage with top line growth. Instead, enhancing brand awareness is seen here as the primary objective of Digital Signage systems, and consequently the ROO becomes significant.

Digital signage systems lie on the cusp of network-based IT and media industries. Still in a nascent stage with market and technology landscapes continuously developing, exclusive ROI models may only evolve with greater crystallization of the industry. Efforts in this direction are being made by a number of bodies including POPAI, Out-of-Home Video Advertising Bureau (OVAB), Nielsen New Media Services (NMS) and Digital Signage Association (DSA) among others. While these bodies are predominantly working on developing a set of guidelines for the industry, they will only evolve into standards upon wide adoption by industry players, thereby laying the foundation for best practices in the Digital Signage industry.

Section 6: Case Study
Retail sales soar with Digital Signage systems

The Context

Since its introduction a few years back, the potential of Digital Signage as an advertising medium for the retail industry has been held back by the lack of performance analyses looking more closely at the purchasing behaviour of customers and sales figures of traditional and digital media in comparable settings. For the first time, in 2004, a study comparing two similar retail outlets was conducted in the Allgäu region of Germany. The aim of the investigation was to analyse the effects of a Digital Signage system on sales figures in a medium sized supermarket. The findings relating to the sales figures for a medium sized retailer a comparison to be made between a super market using NEC's MultiSync® LCD4010 public displays in their Digital Signage system, and one with traditional POS advertising (including posters for example). Strong case studies such as this are expected to significantly boost adoption of Digital Signage in the retail sector.

The evaluation, i.e. the period during which the sales figures were monitored, lasted six weeks. In order to obtain a basic pool of data for the investigation, only identical products, which were available in both stores, were compared. For this reason, five different product groups: pasta and frozen foods, sausages, dough/cake mixtures, fruit juices and beer from market leading brands were selected. All these products were available in the SPAR supermarkets in both Füssen and Kempten at the same time and were also advertised on the same days. The prices as well as the quantities on offer were also identical. It was only in their form of promotion that the advertised products differed: the Füssen store used electronic advertising via Digital Signage, while the Kempten store used traditional advertising media. It was possible to compare all the purchases made during the period covered by the study, on the basis of the most precise data collection methods using POS receipts and product control systems. The SPAR supermarkets in Füssen and Kempten had comparable sales areas around 1150 square meters. Furthermore, because of their proximity in terms of clientele, population and infrastructure, the two SPAR super markets can be ideally compared.

The SPAR supermarket in Füssen was equipped with a retail signage system from NEC Display Solutions. The system comprised three Public Displays (NEC MultiSync® LCD4010), all connected to a PC. By using special content software, current offers with their prices as well as promotional videos were shown. The three screens were installed in three separate product areas (beverages, frozen foods, bakery products) and displayed promotional videos and flash animations for the advertised products. These advertisements did not relate to product launches but to stock products with special price points. The content was stored centrally and automatically updated. In Kempten, standard POS marketing materials were used to advertise the comparable products, these included POS stands, posters, special sales areas and the usual product displays.

The Results: Digital signage drives retail sales up by 80 percent

The study yielded some solid results that demonstrate the effectiveness of deploying Digital Signage. These are presented below in the form of percentage change in unit sales and revenues of SPAR Füssen with Digital Signage systems as compared with that of SPAR Kempten.

"Sales figures have increased considerably.
In some areas we were able to move more than double the quantity of products,
an unbelievable success.

The investment in a Digital Signage system from NEC Display Solutions was completely paid back after just one year".

Helmut Angl
Owner of the three SPAR supermarkets in Allgäu

	Change in Unit sales	Change in Revenues
Pasta & frozen food	+ 117.7 %	+ 113.4 %
Sausages	**+ 75.6 %**	**+ 65.2 %**
Dough/Cake mixtures	- 53.9 %	- 53.9 %
Fruit Juice	**+ 140.4 %**	**+ 148.2 %**
Beer	+ 117.2 %	+ 122.0 %
Total	**+ 80.4 %**	**+ 60.7 %**

The results of the study serve to demonstrate that retail sales can be visibly increased by using a Digital Signage system. Deploying a large format LCD display like the NEC MultiSync® LCD4010 used in SPAR Füssen can help transmit information to customers far more effectively and in turn, affect their purchasing decisions, driving up revenues for the retail store.

Section 7: Conclusion

Digital Signage: A maturing technology

Digital signage is set to develop into a mainstream form of media, competing with and even displacing other traditional media in select applications. The market is driven by the many key benefits among which may be broadly outlined as:

- Increased sales
- Cost savings
- Brand enhancement, and
- Additional source of revenue

Although the precise benefits may presently be difficult to quantify, it is clear that the benefits of Digital Signage its adopters will vary according to their specific objectives – often driven by different strategic agendas and business models. Nevertheless, some generic ROI models are expected to emerge in the near future.

Digital signage presents many new opportunities to change the nature and dynamic of customer interaction. As such, it poses to meet the business challenge that many industry sectors are faced with in these times of economic downturn. With customers increasingly growing resistant to traditional advertising media, businesses are faced with the challenge of retaining and growing a steady customer base. Many retailers are looking to provide an improved shopping experience to their customers, whilst increasing revenue by selling advertising space on the digital network. Travel and hospitality sectors are using Digital Signage systems as a better means of offering information to their customers in their highly competitive market landscapes. Numerous other creative applications of this technology are expected in a number of verticals worldwide.

As the demand for Digital Signage grows, another key challenge that companies will continue to face is successful deployment. While some companies that have the right in-house capabilities may opt for the best of breed approach, a significant majority are expected to go for the turnkey solution approach. As such, a Digital Signage solution provider with both business and technological expertise would be the ideal partner for any business which does not already have the relevant capabilities. With the right strategy and the right choice of solution provider, businesses could see great benefits from Digital Signage network.

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