

Why do Shop Owners install Digital Signage?

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Abstract. In this paper we investigate why shop owners install Digital Signage. From casual interviews we had the impression that most shops installed Digital Signage just because their neighbors have it, too. We interviewed responsible persons in 53 shops that use digital signage in Münster, Germany. On the question “Why did you decide to use Digital Signage in your shop?” 21 different reasons were given, including the benefits of moving images, the ease of exchanging content, and the ability of showing more content than on a poster or on the shelf. However, in a follow-up question “How did you become aware of Digital Signage?”, it subsequently turned out that for most of the shops, the installation of Digital Signage was decided by central headquarters, and the local branch had no choice about it.

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1 Introduction

Pervasive computing technologies like Digital Signage are rapidly permeating shopping environments. While much attention is spent towards the customers and users of such technology, it is the shop owners who actually decide whether such technology is being installed. This paper explores the reasons why such technologies are being installed. To our knowledge, no research exists yet that investigates the perspective of shop owners. From casual interviews, we got the impression that in many cases, Digital Signage is installed simply “because the neighbors have it, too”. Our interviews revealed that this is actually not the case.

2 Related Work

While apparently no research exists on the shop owners perspective, there is already a body of work on the customers’ and audiences’ perspective on the usage of Digital Signage. Huang et al. [1] show that many digital signs actually receive much

less attention than expected. Müller et al. [2] explore the reasons for this and show that for many digital signs, the audiences expect nothing interesting to be shown. Kristoffersen et al. [3] explore the usage of computing technologies in public spaces, and Michelis [4] explores the reasons why people want to interact with Digital Signage. Höllerer et al. [5] explore the view behaviors towards Digital Signage in detail.

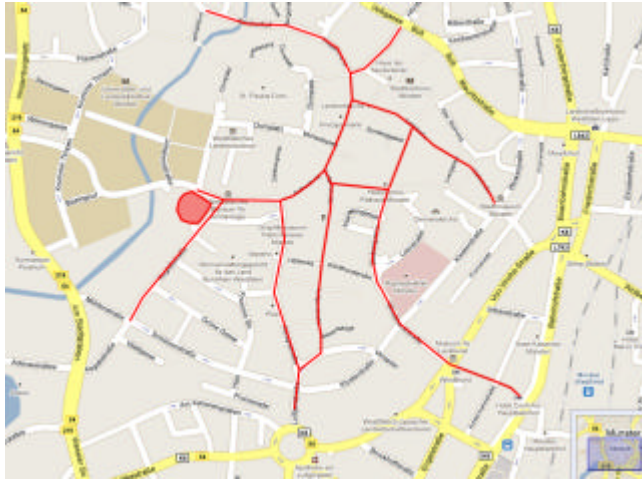


Figure 1: Shopping streets in the city centre of Münster, which were inspected for the survey, illustrated in Google Maps. © Google Inc.

3 Method

We selected the eight main shopping streets in the city of Münster, Germany (see Figure 1). We conducted interviews on November 11, 12, and 13 from 10 am until 4 pm. We visited each shop in this area, for a total of 415 shops, to see whether they have Digital Signage installed. In total, 53 shops had some kind of Digital Signage. For these shops, we asked for the responsible person and interviewed them. The first question we asked was “Why did you decide to use Digital Signage in your shop?” For most shops, one or two reasons were given, for a total of 99 reasons. In a follow-up question, we asked “How did you become aware of Digital Signage?” For most shops, one reason was given, for a total of 50 reasons (some couldn’t answer). For data analysis, we applied an affinity based technique. This was applied in order not to influence the analysis of the interviews by our prior knowledge and instead have the categorization purely be guided by the data. In order to establish the validity of the categorization, two independent raters were used. With a single rater it is impossible

to establish the validity of the categories, while additional raters do not add much value. Therefore, we printed each reason on two pieces of paper. For both questions, we categorized the answers with two independent raters using the following method. The rater would pick a reason from the stack and decide if it is similar to a category of reasons already on the table. If so, she would add it to the cluster, if not, she would open a new cluster. If necessary, she would split or merge existing clusters. Finally, the similarity between both raters is calculated. For the first question, in the first round 91.9% inter-rater agreement have been achieved, and after harmonization of the categories, agreement was 100%. Thus, for this question the categories seem to be relatively obvious. For the second question, in the first round 100% inter-rater agreement have been achieved.



Figure 2: Three digital signs installed in a fashion store, prescribed by headquarters.

4 Why did you decide to use Digital Signage in your Shop?

For this question, 21 categories have been identified. We shortly elaborate on each category.

„Because the images are moving, one pays more attention to them“ (16 answers)

Many shops stated that animation plays a big role. Another answer in this category was “It increases the vitality of the store”

“The content can be exchanged quickly” (11 answers)

The ability to quickly exchanged content was seen as a big benefit over posters. Other examples were “It is more flexible, and we can make offers to the week or month” and “We can show current offers very quickly”

“We can show advertisements” (8 answers)

Some shops stated the mere ability to show advertisements on the displays. Similar answers were “We can inform about our products” and “We can advertise for other companies, and they advertise for us”

“It was prescribed by the company headquarters” (7 answers)

Interestingly, in seven cases the local shop management could not decide about the installation at all, but it was decided in central headquarters. This was the case in chains as well as franchises: “We are a franchise, and it was prescribed by headquarters”

“It attracts attention” (7 answers)

The fact that the displays are assumed to attract attention was expressed in sentences like “It attracts customers”, “It fits the AIDA model”, “It is a show effect” and “Before, customers only looked into the shop window very shortly, and we wanted to change that”

“We can show more content than before. We don’t have enough space in the shop window to show everything ‘in real’” (6 answers)

Interestingly, quite some shops had an issue that they had not enough shelf space to show all their products. So they appreciated that they could show more products on Digital Signage: “We wanted to show what our new collection has to offer, because we cannot present everything in the store.”



Figure 3: Display showing skiing videos, installed because it is 'cool'

“It is an eye-catcher” (5 answers)

Besides the effect that the displays attract attention and interest, it was stated as positive that the display act as an eye-catcher: “It attracts views”.

“We have much more possibilities, to design our advertisements better” (5 answers)

Shops mentioned the design possibilities of Digital Signage as a reason why they had installed them: “One can see the whole thing in action , that cannot be offered by the packaging”, “We can show different combinations, what [clothes] can be worn together”

“It is ‘in’” (4 answers)

For some shops, the reason stated was simply that displays are trendy: “It looks more modern”, “Kids like it”

“It is more attractive” (3 answers)

Some shops found displays more attractive than posters: “We can attract customers better”

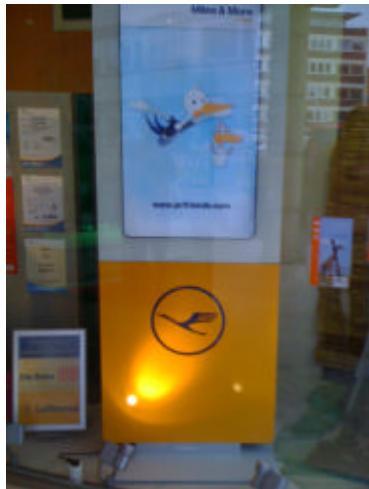


Figure 4: Display in a travel agency, installed because it was offered by an airline.

Other answers were:

“Customers associate emotional values, and we want to support this actively”(3 answers)

“Customers can recognize spots from television”(3 answers)

“The human eye is fed up with posters” (2 answers)

“In the evening, the screen catches the eye” (2 answers)

“When the shop is closed, so that the customers stick here nonetheless” (2 answers)

“It is used everywhere” (2 answers)

“The skiing video should raise interest for skiing” (2 answers)

“It is cool!”

“Posters are much more expensive”

“We want to provide services for customers, like sports or football”

“We wanted to demo our devices”



Figure 5: Display in a Pharmacy

5 How did you become aware of Digital Signage?

As a follow-up question, we asked “How did you become aware of Digital Signage?”
Answers were:

„It is prescribed centrally, in every branch“ (28 answers)

Similar answers were: “It is prescribed, we have no influence on content or whether it is installed”, “It is part of the corporate identity”.

„It was offered by headquarters, but we could decide whether we want to have it“(6 answers)

„A digital signage company approached us“(6 answers)

„Others have it, too, for example at the train station“(4 answers)

„We thought about how to captivate customers, than the idea came up“(2 answers)

„Two years ago, we had a spare screen”

“The store next to us sells TVs and borrowed it to us, so we could both benefit”

6 Discussion

Surprisingly, for the second question many more shops admitted that the displays were centrally prescribed by headquarters than those who mentioned this for the first question. Actually, for the majority of shops the decision was met by headquarters, while only some shops could decide for themselves. Only relatively few shops installed displays offered by a Digital Signage advertising company. In a few cases, displays were installed on a pure opportunity basis (“We had a spare screen”). The fact that “others have it, too” scored relatively low in this comparison.

When designing and developing digital signage systems, the most important stakeholder to support may be central headquarters of chains. While these stakeholders make the final decision, they may easily be forgotten when designing digital signage systems. Supporting easy content distribution and/or monitoring of operation in different stores may be crucial for adoption.

Regardless whether they could actually decide about it or not, when asked why they have Digital Signage, most shops seemed to come up with reasons why Digital Signage is good, instead. These seem not necessarily to be the actual reasons for installation, but rather the perceived benefits.

When developing digital signage systems, it may be sensible to concentrate on the features of digital signage that are stated as benefits most often. As the most often mentioned benefit is animations, these should probably be well supported by all digital signage systems. As of early 2010, still many digital signs can be observed where animations lag or stutter. Also, digital signage systems should support the quick and effortless exchange of content. Another important benefit that was stated was that digital signs attract customer attention, so they should probably be optimized for this, for example by responding to the audience. Finally, many shops stated that the possibility to show more content than available in the shop is very important for them. Thus, instead of simply showing a single video in a loop, displays should probably support interaction such that audiences can browse in large content collections.

6 Conclusion

We conclude that the actual decision about installation of digital signage is often not made by the shop, but instead by central headquarters. When asked why they have Digital Signage, however, shops come up with perceived benefits of Digital Signage. These are foremost animation, ease of exchanging content, attracting attention, ability to show more content than in the shop, and the coolness of the screens. These benefits should all be well supported by digital signage systems.

References

1. Huang, E., Koster, A., Borchers, J. Overcoming assumptions and uncovering practices: When does the public really look at public displays? In Proc. of Pervasive 2008, Springer, Berlin (2008)
2. Müller, J., Wilmsmann, D., Exeler, J., Buzeck, M., Schmidt, A., Jay, T., Krüger, A. Display Blindness: The effect of Expectations on Attention towards Digital Signage. In Proc. Of Pervasive 2009, Springer, Berlin (2009)
3. Michelis, D., Meckel, M. Why do we want to interact with electronic billboards in public space? In Proc. Of 1st Workshop on Pervasive Advertising In conjunction with Pervasive 2009, Nara, Japan (2009)
4. Kristoffersen, S., Bratteberg, I. Designing Sociable IT for Public Use. In Proc. of UbiComp 2008, ACM Press (2008)
5. Höller, N., Schrammel, J., Tscheligi, M., Paletta, L. The Perception of Information and Advertisement Screens Mounted in Public Transportation Vehicles. In Proc. Of 2nd Workshop on Pervasive Advertising, Lübeck, Germany (2009)