Comparing Visitors and Non-Visitors Motivations and Sociodemographics: The Case of the Swiss Science Center Technorama

Vergleich von Besuchermotivationen und soziodemografischen Merkmalen – Der Fall des Schweizer Science Center Technorama

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Abstract

Engaging with new and broader audiences is increasingly relevant for cultural institutions. For that reason, visitor studies have become an established part of cultural management and research. Reaching out to new and broader audiences requires non-visitor research as well. Focusing on the case of the Swiss Science Center *Technorama* this study compares characteristics, needs and motivations of both non-visitors and visitors and shows, based on Falk's phenotypes, how this information can be used for targeted offerings and digital marketing communications. The results affirm well-known barriers such as price and distance, but also show potential of better targeted offerings and digital communications.

Die Einbindung neuer und breiterer Zielgruppen wird für Kultureinrichtungen immer wichtiger. Infolgedessen sind Besucherstudien zu einem festen Bestandteil des Kulturmanagements und der Forschung geworden, doch um neue und breitere Publikumsschichten anzusprechen, ist auch Forschung über Nicht-Besucher erforderlich. Diese Studie konzentriert sich auf den Fall des Schweizer Science Center *Technorama* und vergleicht Merkmale, Bedürfnisse und Motivationen von Nicht-Besuchern und Besuchern und zeigt, wie diese Informationen für gezielte Angebote und digitale Marketingkommunikation auf der Grundlage von Falks Phänotypen genutzt werden können. Die Ergebnisse bestätigen bekannte Barrieren wie Preis und Entfernung, zeigen aber auch das Potenzial für gezieltere Angebote und digitale Kommunikation.

Keywords

Audience development, non-visitor studies, arts marketing, visitor motivations, non-visitor socio-demographics

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Journal of Cultural Management and Policy, 2024/1, pp. 101–126

doi 10.14361/zkmm-2024-0105

Introduction

Audience and visitor studies have been widely discussed in the context of audience engagement in arts management research and practice. A good deal of academic and professional literature has examined visitors of museums, theatres, and festivals (KIRCHBERG/KUCHAR 2013; MANDEL 2008; WEGNER 2016). Visitor research has now become an established area of activity in arts and cultural organizations (RENZ 2015). However, due to demographic and societal changes such as ageing audiences, changing lifestyles, and increasingly diverse societies, engaging with new and broader audiences is increasingly relevant for cultural institutions, from both policy and managerial perspectives. As Mandel (MANDEL 2008) argues, the legitimacy of public funding for culture will depend in the long run not only on support for artists, but also on efforts to reach out to audiences as a way of positively impacting society at a broader level. Targeting new audiences and addressing a broad public with offerings and communications is not only relevant for subsidized arts and culture but is particularly crucial for organizations with a high degree of self-earned revenue where ticket sales are linked to long-term financial viability.

Despite clear relevance for visitor and audience studies, little research exists on non-visitors as a group—those who do not attend or participate in cultural offerings (RENZ 2015; TODD/LAWSON 2001; TRÖNDLE 2019). In addition, while visitor studies is now an established area of research, only arts and cultural organizations with large budgets can generally afford more resource-intensive, non-visitor research. Further, compared to visitor research, less is known about how to conduct systematic non-visitor research, and about how to implement its results across an organization in a way that can attract new and broader audiences. These issues have become even more relevant in the post-pandemic period, as cultural organizations now face the additional challenge of winning back visitors after the pandemic recession (MORF/WALTHERT 2021). Determining and understanding why people refrain from visiting arts and cultural institutions however has been long thematized in the literature (HOOD 1983; 2004). Marilyn Hood's 1983 article *Staying Away* (HOOD 1983), was the first piece of academic research to address the reasons people do not visit museums. Thirty years after publication of

Hood's seminal work, understanding how to engage with non-visitors remains an open question.

This article contributes to a growing discourse in academia and among practitioners across, and at the intersections of non-visitor studies, audience development, and cultural management. We offer a case study analysis of the Swiss Science Center *Technorama* (hereinafter referred to as simply *Technorama*). To this end, our paper addresses the following research questions:

- What motivations and personal characteristics keep potential visitors away from *Technorama*?
- How do non-visitors and visitors differ? Accordingly, how can we define visitor segments and target marketing efforts in general, and digital marketing efforts in particular?
- How can systematic non-visitor research advance the understanding of audience development?

In the following section, we present an overview of existing literature on the issues of audience development and visitor/non-visitor studies, with a focus on the museum sector. Following, we describe particulars relating to *Technorama*'s strategic situation as well as the design of the surveys we conducted in cooperation with *Technorama*. Subsequent sections discuss the study results and elaborate on how the organization used them for the implementation of better-targeted program offerings, and communication to motivation-based visitor segments as well as for turning non-visitors into regular visitors. We conclude by pointing out our paper's limitations as well as the potential of its insights for practical application in other cultural institutions, and the possibilities for further research.

Audience Development and Visitor/ Non-Visitor Research in Museums

The term Audience Development became widely known through the British Arts Council's *New Audiences Programme 1998-2003* (ARTS COUNCIL 2003). The Council is considered one of the pioneers in providing accessibility to institutional arts to a broader public, and describes Audience Development as an

> activity which is undertaken specifically to meet the needs of existing and potential audiences, and to help arts organizations to develop ongoing relationships with audiences. It can include aspects of marketing, commissioning, programming, education, customer care and distribution. 'Audience' encompasses attendees, visitors, readers, listeners, viewers, participants, and learners. (COGMAN 2013: 2)

Earlier definitions addressed Audience Development primarily from an arts marketing perspective (DIGGLE 1984). Szope argues that the term is increasingly employed to refer to an active and multi-domain process to develop the longest possible lasting relationship between institutions and their visitors (SZOPE 2019, following LIPPS 2015). Further, Frenzel (2017) describes Audience Development as an interdisciplinary concept that is superordinate to the fields of museum marketing and art education and uses the methods of visitor research to effectively influence the subfields of visitor acquisition, visitor orientation and visitor development (FRENZEL 2017). In addition to visitor studies, data on non-visitors are also increasingly relevant for engaging new audiences (RENZ/MANDEL 2010; RENZ 2015; TRÖNDLE 2019).

As already mentioned, the first museum non-visitor studies appeared in the 1980s and among the influential pioneering works is Hood's 1983 article *Staying Away: Why People Choose not to Visit Museums*. Hood identifies "having social interaction," "doing something worthwhile," "feeling comfortable and at ease in one's surroundings," "having challenge of new experiences," "having an opportunity to learn," and "participating actively" as key criteria for choosing leisure activities (HOOD 1983: 51). Using a quantitative survey, Hood defined three types of visitors based on their leisure values, interests, and expectations: frequent participants, occasional participants, and non-participants. In this way, Hood was able to refine the previously common division of museum audiences into participants and non-participants.

More recently, Falk (2009) made an important contribution to museum visitor typology by segmenting visitor types using identity-related visiting motivations. He describes five types of museum visitors: explorers, facilitators, professionals/hobbyists, experience seekers and rechargers. While explorers are curiosity driven, have interests in the museum's content, and want to learn new things in the process, facilitators are socially motivated; their concern is to enable others to have new experiences and learn new content. Professionals/hobbyists have a strong interest in content and come specifically to

see a particular exhibit. Experience seekers are most interested in checking off the must-sees of a destination, while rechargers use the museum as a sanctuary to relax, which can also be spiritually/religiously motivated. With this model, Falk provided a widely accepted survey instrument for visitor typologies, which was later expanded by Phelan et al. (2018) to include a cross-site comparison model.

Hood (1983) identified motives to visit museums, such as relaxing and entertaining oneself, distraction from everyday life, a need for social activity such as socializing with friends or meeting new people, as well as educating oneself. Mandel (2008), writing years later, and from a more European-centered perspective, specified that cultural visits serve to satisfy different, often parallel needs. She also emphasizes that visiting cultural organizations serves as a way of communicating one's lifestyle, as well as interest in specific aesthetic forms of expression (MANDEL 2008).

As compared to the consistently studied motives for visiting a cultural institution, little is known about the motives for not visiting cultural offerings. This is despite the growing call for more non-visitor research since the 1980s (HOOD 1983; KIRCHBERG 1996; KLEIN et al. 1981; RENZ 2015; WEGNER 2010). According to Renz (2015), three dimensions have emerged so far in non-visitor research. These include non-visitor research as reception research, non-visitor research as social inequality research, and non-visitor research as barrier research (RENZ 2015).

Reception research takes place experimentally during the actual visit of non-visitors and gives artists and arts educators insights into how to create new cultural offerings that stimulate reception processes (RENZ 2015: 264). Non-visitor research as social inequality research, on the other hand, deals with topics such as possible discrepancies between urban and rural areas, the role of education and socialization, and leisure interests as reasons for non-visiting. Thus, the research is devoted, in part, to the question of how to address those groups who lack sufficient opportunities for participation (RENZ 2015: 163, 261). Non-visitor research focused on barriers looks at what prevents visits (RENZ 2015: 136). Studies show that the following barriers constitute reasons for not visiting museums: lack of entertainment and sociability; uncertainty in the unfamiliar museum environment, a lack of welcoming ambience, the strenuous nature of a museum visit, the passive nature of a museum visit, difficulties in understanding museum content, little promise of benefit to visitor, the expense of a museum visit,

and preference for other leisure pursuits (WEGNER 2016). Studies have concluded that the entrance fee is a particularly crucial barrier (ECKHARDT et al. 2006; KIRCHBERG 2005). However, a study by Keuchel (2003) on cultural audiences in the German Rhine region demonstrated that price reductions primarily promote gains within the target groups that are already visiting anyway (KEUCHEL 2003). Economists Frey and Steiner (2012) also argued that price reduction (or even free entry) does not necessarily increase the involvement of people distant from cultural activities. Still, the introduction of dynamic pricing in arts organizations might help in building broad and varied audiences (LABARONNE/SLEMBECK 2015).

Barriers can also be divided into object-related and subject-related barriers (RENZ/MANDEL 2010). Object-related barriers include the lack of cultural infrastructure and barriers that can be reduced through marketing policy such as ticket prices, type and scope of communication, distribution, and services—for example access, parking facilities, and hours of operation. Subject-related barriers are, for example, the perception non-visitors have of cultural institutions and lack of time or lack of people with whom one can attend (RENZ 2015). Renz (2015) noted a consensus in the literature that subject-related barriers are more decisive predictors for non-visiting than object-related barriers. Some object-related barriers can be easily researched in a standardized way and thereby minimized using operational marketing. Researching and reducing subject-related barriers is more complex as these cannot be easily mapped to one-dimensional impact models (RENZ 2015).

A recent critique of non-visitor studies by Tröndle (2019) noted that there has been too much emphasis on breaking down barriers, and that this has inevitably over thematized the issues of access barriers, in the context of cultural institutions, such that institutions are described by overextension of the significance of the term as barrier institutions (TRÖNDLE 2019). In a lifestyle-segmented society, it is nearly impossible for cultural institutions to address all lifestyle types equally. Instead, cultural institutions should try to create a sense of proximity among potential visitors. In the author's view, the potential for gaining new visitors only exists if organizations and their content are close to the people.

This proximity is intended to extend along the entire customer journey. Tröndle (2019) found that to reach and retain non- and infrequent visitors, decision-makers in cultural institutions would have to focus

on the entire visit, not just a particular exhibition and its curatorial order. Even before visitors buy their first tickets, they are exposed to motivations to visit, such as storytelling and the image of the institution. Tröndle further added that the goal should be the creation of a holistic experience which spans the time from the moment visitors arrive until they leave, which also means building up expectations of what the experience will be like. Thus, visitor/non-visitor research should be interdisciplinary and integrative, and consider social and individual, aesthetic, and practical aspects of visiting and non-visiting (TRÖNDLE 2019).

In the same line of thought, Szope (2019) calls for a combination of surveys of both visitors and non-visitors, combining surveys on visit satisfaction with queries based on smart cash register systems, using digital data to better segment potential visitors and address different target groups (SZOPE 2019). Frenzel (2019) also advocates capitalizing on the full potential of digitalization in museum practice and its integration into audience development. While digital methods are already being used to conduct visitor surveys and to evaluate data that is implicitly or explicitly provided by the visitors (for example, controlling), there is still the possibility to attract (potential) visitors as well as attract and retain digital visitors (FRENZEL 2019). However, little is still known about the development of digital target groups and the potential of digitalization for audience development in general (FRENZEL 2019).

Case Description: Technorama's approach for visitors and non-visitors

Technorama was originally founded as a technical museum in 1969. Beginning in 1990 it has undergone a transformation into Switzerland's first science center. Today, it is one of the largest science centers in Europe, spanning 8,000 square meters of exhibition space with over 500 experiment stations arranged in thematic sectors. In addition, there are spectacular shows, demonstrations for smaller audiences and a varied workshop program in seven laboratories covering topics in biology, chemistry, and physics. In April 2021, *Technorama Outdoors* was opened. The centerpiece of the 15,000-square-meter outdoor area is the 130-meter-long *Bridge of Wonders*. Here, visitors find another 30 new exhibits in XXL-format.

Unlike most museums, *Technorama* does not collect and exhibit artifacts. Rather, it facilitates experiential knowledge and invites visitors to become active themselves and engage with the abundance of experimental exhibits. *Technorama* aims at communicating principles of science in a way that focuses on competency resources, following a rather constructivist approach to learning (WAGENSCHEIN 2010), which states that knowledge cannot be transferred from one person to another but instead needs to be constructed anew by each individual learner.

Technorama is one of the most visited cultural institutions in Switzerland, with a significant number of visitors from other European countries. It is also one of the most important extracurricular learning centers for MINT subjects (mathematics, information technology, natural sciences and technology). In addition, its degree of self-financing of more than 60% is a special achievement, which counterintuitively makes *Technorama* more vulnerable financially to both post-pandemic recession and visitor dissatisfaction. Because of the latter, the organization systematically bases its offerings and communication on information about regular visitors as well as non-visitor research. We thus argue that based on the richness of its content information, our case corresponds to an information-oriented selection strategy (FLYVBJERG 2011). Using this case allows us to gather a great number of possible insights on the application of visitor/non-visitor research to issues of audience development, visitor engagement and segmentation, as well as targeted marketing and communication.

Survey Methodology

A wide range of information about Technorama visitors was obtained from surveys conducted in 2014 and 2017 by researchers at the Züricher Hochschule für Angewandte Wissenschaften (ZHAW). The quantitative survey of 214 visitors conducted in 2014 was based on the research and motivational questionnaire design of Falk (2008). Visitors were classified into five phenotypes. Table 1 compares the results with data from the Phaeno Science Center at Wolfsburg (KISSLING/KOPPENHAGEN 2015). In both cases Facilitator was the most common phenotype while Recharger phenotype was less well represented.

Visitor type according to Falk (2008)	*Phaeno*	*Technorama*
Experience seeker	21.40%	18.40%
Explorer	28.70%	18.80%
Facilitator	36.50%	37.90%
Professional hobbyist	2.70%	20.10%
Recharger	5.90%	4.80%

Notes. Phaeno (N=373), *Technorama* (N=214).

Table 1: Comparison of visitor typology Phaeno and Technorama

Technorama wanted to learn more about the perceptions of non-visitors, which led to the current study. Visitors—but also, primarily non-visitors—were surveyed. In contrast to the 2014 and 2017 surveys, the non-visitor survey was conducted offsite at the locations of the traveling exhibition Technorama on Tour. Figure 1 illustrates the surveys conducted and planned.

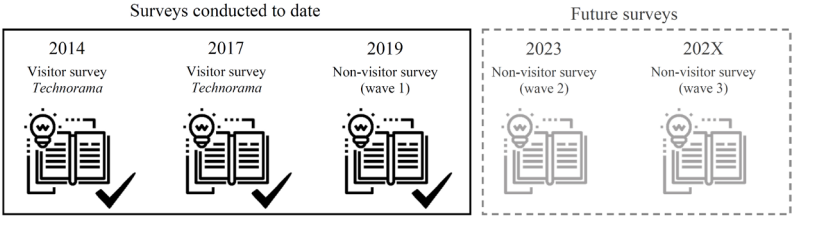


Figure 1: Overview of already-conducted and future visitor/non-visitor surveys

The presentation of Technorama on Tour in four large shopping centers in eastern Switzerland provided an ideal platform for surveying non-visitors. Against the backdrop of the Technorama Outdoors construction project, the organization aimed to reposition Technorama as an attractive fair-weather destination.

The following figure shows our research design.

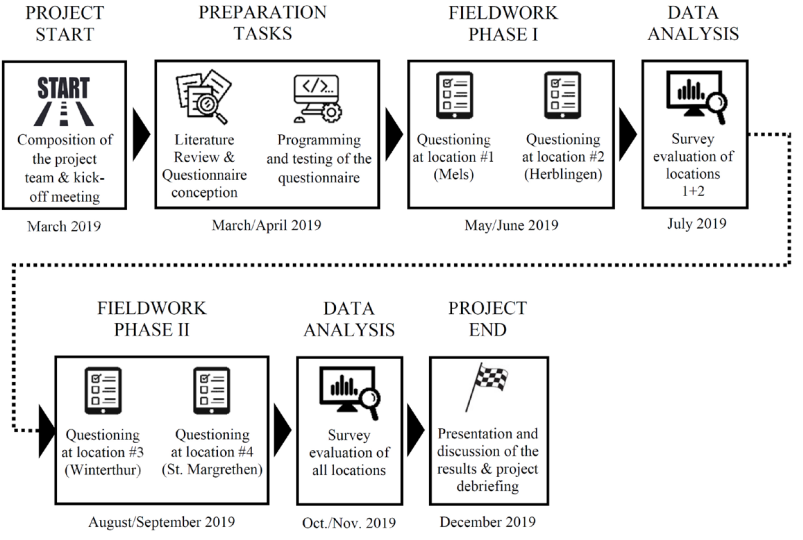


Figure 2: Research design of the non-visitor survey 2019

The survey consisted of a total of ten subsections. Survey participants were asked about their general leisure behavior based on the results of a national survey conducted by the *Swiss Federal Statistical Office* (*BUNDESAMT FÜR STATISTIK [BFS]* 2016). Following Hood's (1983) scale, an established scale which has been used in previous *Technorama* surveys, we asked respondents their motivations for attending general leisure activities. To divide the survey participants into different visitor and non-visitor groups, questions about their awareness of *Technorama* followed. Additional questions were asked about visiting habits and motives in relation to *Technorama*. On the one hand, the aim was to find out—from people who had already visited *Technorama* at least once—their reasons for visiting *Technorama*. On the other hand, people who had heard of *Technorama* but had never visited it, were also asked why not. The aim of the subsequent image questions was to determine how the participants who had visited or at least had already heard of *Technorama* perceived the museum and its offerings. Survey participants were given the same or very similar response options for these image questions as they had in the past visitor surveys of 2014 and 2017. The statements to which visitors and non-visitors responded were composed with the aid of a semantic differential, among other things.

A further aim of the non-visitor survey of 2019 was to present the planned *Technorama* park project *Technorama Outdoors* to the survey participants to find out whether they could imagine visiting *Technorama* again in the future—or for the first time, because of the newly planned outdoor park. This was followed by a classic Net Promoter Score (NPS) survey based on Reichheld (2003) for all participants who had already visited *Technorama* at least once. The survey was completed with socio-demographic questions.

The survey was programmed with the software Qualtrics, which allowed respondents to complete it on mobile devices (in this case, iPads) during the traveling exhibition *Technorama on Tour*. To ensure that the survey was clearly formulated and programmed without errors, tests were carried out beforehand.

The surveys were conducted between May and September 2019. To ensure that the sample was as large as possible and that a good cross-section of the population was reached, the days and times with the highest visitor frequency were chosen in all four shopping centers. In total, the project team was on site for the non-visitor survey for 14 days. Visitor/non-visitor groups were segmented as follows: The survey participants were divided into two groups: visitors and non-visitors. To gain deeper insights into the preferences of non-visitors, this target group was segmented into a total of three non-visitor groups. To perform the segmentation, all survey participants were asked at the beginning of the survey if they had heard of *Technorama* before the current traveling exhibition *Technorama on Tour*. Of all 432 survey participants, 215 (49.75%) answered "No," which placed them in the group "never-visitors." The remaining 217 survey participants who answered "Yes" were asked a follow-up question, whether they had ever been to *Technorama*. Of these, 217 people or 18 per cent (39 people) stated that they had never been to *Technorama*, which means that these were also placed in the "never-a-visitor" group as well. This resulted in a total of 254 never-visitors. To compose the category "no longer a visitor," the 178 people who stated that they had already been to *Technorama* once were asked a follow-up question about when their last visit to *Technorama* took place. Here, 31.45% (56 people) stated that it had been more than five years. These 56 people therefore belong to the "no-longer-a-visitor" group. For further analysis the group "almost-a-visitor" was created and was comprised of those participants who resemble visitors to *Technorama* in socio-demographic terms but who have not yet been to *Technorama*.

All responses were analyzed using SPSS 28. In addition to the classic descriptive analyses, significance tests were also carried out to determine if significant differences existed between the various visitor groups. For questions that could be answered on a 5-point Likert scale, mean comparisons were made using single-factor analyses of variance (ANOVA) with Bonferroni correction (*Bonferroni Post Hoc Test*). Questions for which multiple answers were possible were tested with Pearson's chi-square tests. For both methods/tests, a significance level of 5% ($\alpha = 0.05$) was chosen.

Results and Findings

Survey results

Table 2 shows socio-demographic data and the distributions of the visitor/non-visitor segments for a total of 432 survey participants. No significant group differences were found regarding place of residence, gender distribution, average age, or between those with and without children. The never-visitors were less likely to report having a higher education degree.

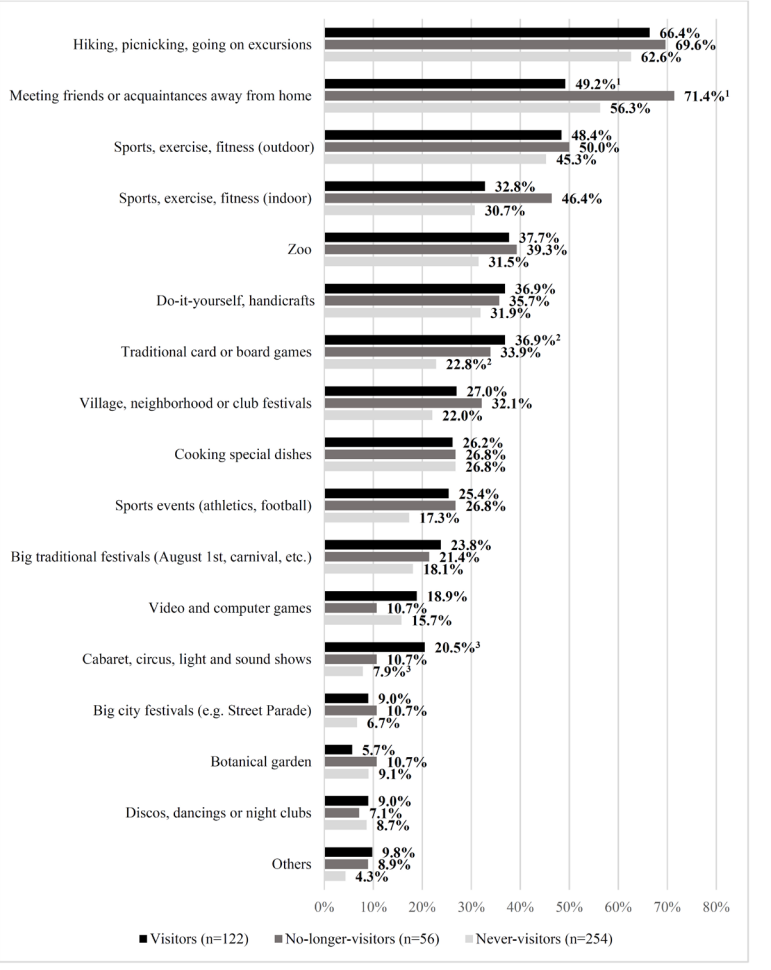
Characteristic	*Characteristics*	*Visitors*[1]	*No-longer-visitors*[2]	*Never-visitors*[3]
Gender	Male	51.6%	53.1%	48.2%
	Female	48.4%	46.9%	51.8%
Have children	Yes	71.3%	65.6%	67.3%
	No	28.7%	34.4%	32.7%
	Average number of children	2.23	2.30	2.05
Age	≤ 18 years	8.2%	0.0%	3.5%
	19-29 years	9.8%	16.1%	18.1%
	30-39 years	23.0%	30.4%	27.2%
	40-49 years	32.0%	21.4%	24.0%
	50-59 years	14.8%	16.1%	15.4%
	≥ 60 years	12.3%	16.1%	11.8%
	average age	42.3 years	44.2 years	41.3 years
Country of origin	Switzerland	96.7%	92.9%	98.2%
	Germany	0.8%	3.2%	0.0%
	Austria	1.6%	2.4%	0.0%
	Liechtenstein	0.0%	1.6%	0.0%
	Other	0.8%	0.0%	1.8%
Highest education level attained	Without education, undetermined	2.5%	0.0%	1.2%
	Elementary school	3.3%	0.0%	0.8%
	Real, secondary and district school	7.4%	3.6%	5.2%
	Vacational school, apprenticeship	28.9%	43.6%	36.1%
	Gymnasium, cantonal, middle and commercial school	9.1%	1.8%	12.7%
	Higher technical school, technical college, university	38.0%	38.2%	36.1%
	Not specified	10.7%	12.7%	7.9%
Personal annual (gross) income	< 40'000	14.8%	7.3%	12.4%
	40'000 – 60'000	13.9%	16.4%	12.8%
	60'001 – 90'000	12.3%	21.8%	18.8%
	90'001 – 120'000	14.8%	20.0%	14.4%
	120'001 – 180'000	6.6%	3.6%	6.0%
	> 180'000	3.3%	1.8%	3.6%
	No answer	34.4%	29.1%	32.0%

Notes. A total of 432 participants took part in the 2019 non-visitor survey (N=432).
[1] survey participants who have visited *Technorama* within the past five years (n=122),
[2] survey participants whose last *Technorama* visit was more than five years ago (n=56),
[3] survey participants who have never visited *Technorama* before (n=254).

Table 2: Socio-demographic data of the three modeled visitor groups

Figure 3 shows that the most frequently mentioned leisure activities that survey participants regularly engage in include hiking, picnics, outings, and meeting friends or acquaintances away from home. For the latter, a significant difference ($p < 0.05$) was found between visitors and no-longer-visitors.

Accordingly, the no-longer-visitors, at 71.4%, were significantly more likely to say they regularly meet friends and acquaintances away from home than the visitors (49.2%). Likewise, significant differences were found between visitors and never-visitors. These two groups differ significantly from each other, especially regarding their preference for traditional card or board games ($p < 0.05$) and cabaret, circus, light and sound shows ($p < 0.01$).

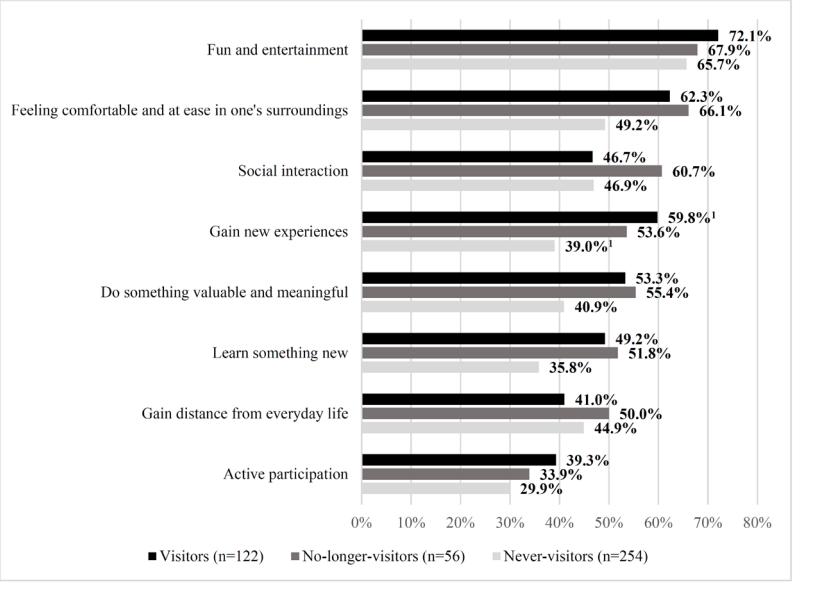


Notes. The following question was asked: "Which of the following leisure activities do you regularly engage in?". Multiple mentions were possible (total mentions = 1'938).

[1] significant group differences between visitors and no-longer-visitors ($p < 0.05$),
[2] significant group differences between visitors and never-visitors ($p < 0.05$),
[3] significant group differences between visitors and never-visitors ($p < 0.01$).

Figure 3: Percentage of mentions per visitor group of their engagement in various regular leisure activities

As to the motives behind why survey participants chose a leisure activity, all three groups were interested in having fun, in being entertained, and in feeling comfortable and at ease in their own environment (Figure 4). The strongest difference between visitors and never-visitors was found in the evaluation of the motive 'gain new experiences.' Here visitors differ significantly from never-visitors ($p < 0.001$).

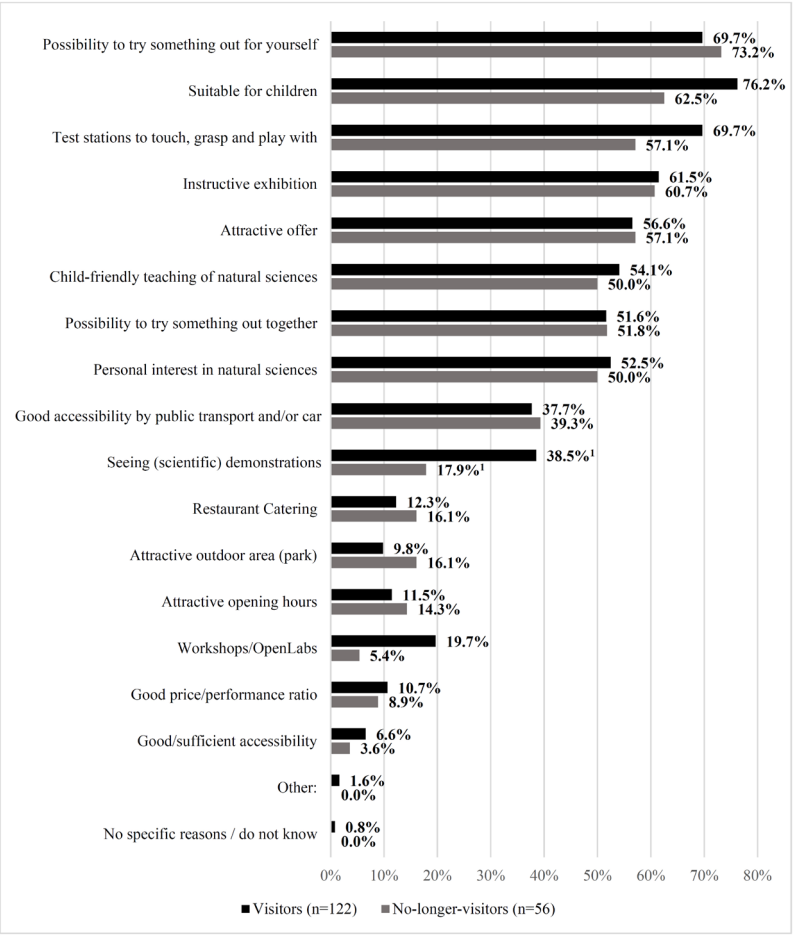


Notes. The following question was asked: "What is important to you when deciding on a leisure activity?". Multiple mentions were possible (total mentions = 1'658).

[1] significant group differences between visitors and never-visitors ($p < 0.001$).

Figure 4: Percentage of mentions per visitor group regarding their motives for engaging in various leisure activities

Both visitors and no-longer-visitors were asked how often they had visited *Technorama* so far. Here, the average number of *Technorama* visits was 4.7 for visitors and 2.5 for no-longer-visitors. When asked their reasons for visiting *Technorama*, "the opportunity to try something out for yourself" and "suitable for children" were mentioned most frequently by both visitors and no-longer-visitors (Figure 5). The only significant difference between these two groups was for the answer option "seeing (scientific) demonstrations". For visitors, the demonstrations (of scientific processes, technological capabilities, and natural phenomena) represent a significantly more important reason for visiting *Technorama* than for no-longer-visitors ($p < 0.001$).



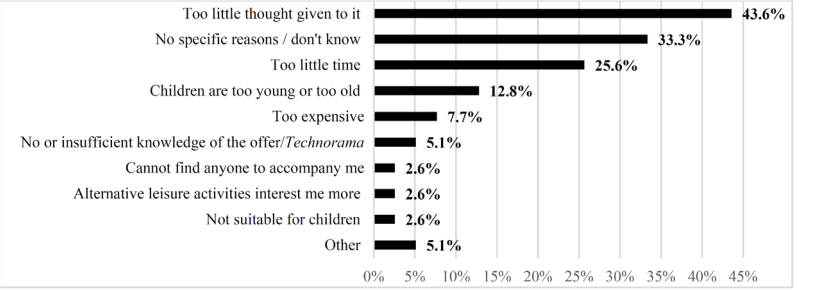
Notes. The following question was asked: "What are the reasons for you to visit *Technorama*?". Multiple mentions were possible (total mentions = 1'109).

[1] significant group differences between visitors and no-longer-visitors ($p < 0.001$).

Figure 5: Percentage of mentions by visitors and no-longer-visitors regarding their reasons for visiting *Technorama*

Non-visitors were also asked about the reasons for their long absences. More than a third (37.5%) answered that they would visit *Technorama* more often if it were closer to their home. The farther away the survey location/shopping center was from the *Technorama* site, the more frequently participants mentioned this as a reason. The second most frequently cited reason was the admission price. A quarter of all no-longer-visitors would visit *Technorama* more often if the admission price

was lower. An additional 23.2% of the no-longer-visitors chose the answer option "No specific reasons/don't know." In other words, in just under a quarter of the responses, no specific reason was given for the prolonged non-visit. Of the 254 never-visitors, 85% (215) had never heard of *Technorama*. The remaining 39 survey participants had heard of *Technorama* but had never visited it. The following figure shows that the most common reason (43.6%) for never visiting was that they had not thought enough about it. A third could not give a specific reason, and about a quarter (25.6%) said they had too little time.

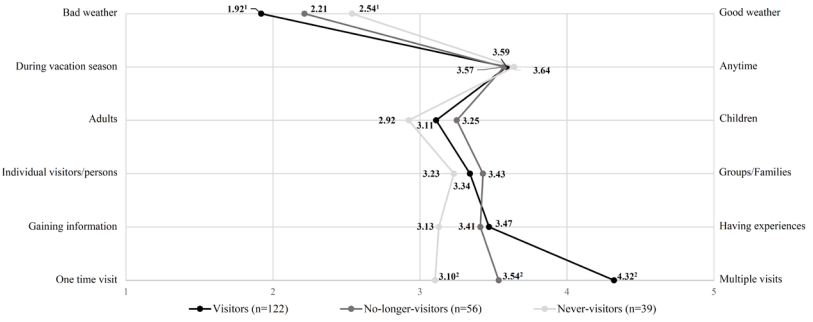


Notes. The following question was asked: "What are the reasons why you have never visited *Technorama*?". This question was only asked of those never-visitors who have already heard of *Technorama* but have never visited it (n=39). Multiple mentions were possible (total mentions = 55).

Figure 6: Percentage of mentions by never-visitors regarding their reasons for not having visited *Technorama* so far

Image

In total, the survey included three questions about the image of *Technorama*. Presented to them as a semantic differential, the choice for the survey participants was between two different expressions on a 5-point scale. The aim of these questions was to find out from the survey participants when, and in which cases, *Technorama* was desirable or suitable as a destination. As can be seen in figure 7 below, *Technorama* tends to be perceived as a bad weather destination by all three groups. The mean values of visitors (M=1.92; SD=.839) and never-visitors (M=2.54; SD=1.211) differ significantly from each other here ($p < 0.01$). Also, visitors (M=4.32; SD=.874) were significantly more likely to think that *Technorama* was a desirable place to visit multiple times than the no-longer-visitors (M=3.54; SD=1.061), and the never-visitors (M=3.10; SD=1.188).



Notes. The following question was asked: "In your opinion, to what extent do the following statements apply to *Technorama*? *Technorama* is suitable for/at…".

[1] significant group differences between visitors and never-visitors ($p < 0.01$),
[2] significant group differences between visitors and no-longer-visitors ($p < 0.001$) as well as between visitors and never-visitors ($p < 0.001$).

Figure 7: Mean value comparison of the visitor groups regarding their assessment of the desirability of *Technorama* as a destination

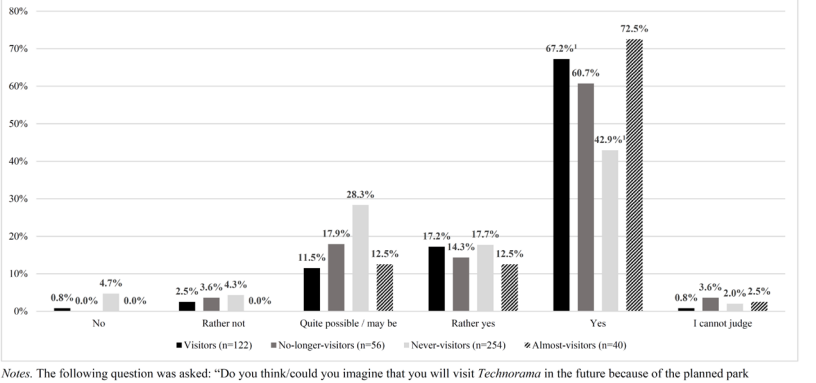
In the second image question, the survey participants were shown three statements, which they had to answer on a standard 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree). Both visitors, with a mean value of 3.10 (SD=1.256), and no-longer-visitors, with a mean value of 3.21 (SD=.967), tended to agree that *Technorama* offers the opportunity to exchange ideas and meet others. The statement that *Technorama* is not about technology, but rather about the natural phenomena behind it, was rated somewhat higher by both groups. The mean value for the visitors with 3.65 (SD=.978) is still slightly ahead of that of the no-longer-visitors (M=3.38; SD=.885). The highest mean values could be found for the statement that *Technorama* offers the opportunity to learn new things and to develop oneself further. Visitors had a mean value of 4.37 (SD=.955) and the no-longer-visitors a mean value of 4.48 (SD=.687). The mean values of these three statements showed no significant differences between groups or survey sites.

For the third image question, a classical semantic differential was used. Both the visitors and the no-longer-visitors rated the tested characteristics of *Technorama* very positively. Both groups believed *Technorama* was modern, educational/informative, fascinating, child-friendly, serious/relevant, and inspiring. The greatest—but still not significant group difference—was seen in the characteristic "child-friendly." Here, the visitors tended to be slightly more of the opinion that *Technorama* was child-friendly (MW=1.59; SD=.769) than the no-longer-visitors (MW=1.82; SD=.876).

Potential of the park project

To test the potential of *Technorama* Outdoors, the park project was briefly shown to all survey participants. Subsequently, they were asked whether they could imagine visiting *Technorama* again or for the first time (for the never-visitors) in the future because of the planned park.

Figure 8 shows that the percentage of respondents who could imagine visiting *Technorama* (a further visit or first visit, as applicable) in the future—due to the planned park—is much higher among visitors (84.4%) than among never-visitors (60.6%). Conversely, 9% of the never-visitors "cannot" or "rather not" imagine a future visit, whereas the figure for visitors is only 3.3%. The only significant difference was found between visitors and never-visitors. Visitors answered "yes" (could imagine a future visit) significantly more than never-visitors (67,2% to 42.9%, respectively ($p < 0.001$)). At 72.5%, almost-visitors exhibit the highest value for the "yes" responses.



Notes. The following question was asked: "Do you think/could you imagine that you will visit *Technorama* in the future because of the planned park project "*Technorama* Outdoors"?".

[1] significant group differences between visitors and never-visitors ($p < 0.001$).

Figure 8: Responses of all visitor groups (incl. the almost-visitors) regarding the potential of the park project called "*Technorama* Outdoors"

A Net Promoter Score (NPS) survey was conducted with all survey participants who had already visited *Technorama* once—that is, with visitors and no-longer-visitors. An NPS survey had previously been conducted with visitors in the 2014 visitor study. At that time, the NPS was 38.00. In the 2019 non-visitor survey, the visitors' NPS was 44.26, slightly higher than five years earlier. At 16.07, the no-longer-visitors' NPS is much lower than that of visitors. Since the NPS is calculated by subtracting the percentage of detractors from the percentage of promoters, the

two groups were examined for significant differences in terms of their percentages in these two NPS categories. No-longer-visitors had a significantly higher percentage of detractors than visitors ($p < 0.05$).

Discussion

The following section elaborates the marketing measures derived from the survey findings, intensive project meeting discussions, and further insights from implementing the results. The newly generated insights about the target groups—both visitors and non-visitors—allow a more nuanced modeling of the Falk phenotypes among visitors and non-visitors, and thus more systematic targeting. Both regular observations at the ticket office and results of the visitor research demonstrated that adults with school-age children (parents, but also grandparents, godmothers, godfathers, and others) are the most common visitors to *Technorama*. The survey using Falk's motivational scales showed that as a target group, adults in this segment largely correspond to the Facilitator phenotype. Adults want the children they accompany to have a good experience, one which the individual child perceives positively both as an individual and as a family member. Image measurement results, as well as the NPS results above, show that the marketing communication's focus on families, addressing both offer-specific features (the possibility of joint experiences), and their psychological effects (affiliation, strengthening of the sense of community, spending quality time in the family network), has been highly successful. Differences between visitors, no-longer-visitors and never-visitors, on the other hand, make it clear that visitors' image of *Technorama* is more in line with *Technorama*'s intended image than that of all other groups, which have not recently experienced *Technorama* and therefore have to rely more on marketing information. In this light, digital communication measures have the potential—to a certain extent—to positively influence visitors' perception/image of *Technorama*.

A critical and frequent issue remains the organization's image as a bad weather destination, one result of which is that attendance is relatively low during the summer season. Combined with the specific survey results, this finding highlights the potential of *Technorama*'s new park project. Additionally, the park project seems to better address two of Falk's phenotypes that are underrepresented in the *Technorama* visitor spectrum: Rechargers and Explorers. The results from questions specifically

asking about the park project show additional potential to create more visits from visitors and non-visitors alike, as the project will potentially create new reasons to visit again or special interest in visiting for the first time. In general, a large proportion of no-longer-visitors and never-visitors seem to have no clear reasons for not coming (or not returning), or just need to be reminded or persuaded that *Technorama* relates to their desires and motivations. This also indicates the potential for effective digital marketing communications. Many potential visitors just seem to need the right nudge at the right time.

Based on the study results, which were presented both orally and as a written report, *Technorama* developed a digital marketing campaign with an appropriate "model family" exploring the offerings of the new park together.

Each family member represents and speaks to one of Falk's phenotypes:

- Mother Karin (40) – Facilitator
  Relation to *Technorama*: Karin goes to *Technorama* primarily because of her children. She wants to show her children new perspectives and transfers the experiences to other situations from life. Learning is fun! Even if it happens unconsciously.
- Father Michael (45) – Professionalist
  Relation to *Technorama*: Has a professional interest in *Technorama*'s STEM topics. He therefore really wants to understand the phenomena and takes time to do so. He likes to explain the background behind the exhibits to his family.
- Son Leandro (13) – Experience Seeker
  Relation to *Technorama*: Finds the XXL exhibits really cool and loves action. When experimenting, he likes to show his sisters how things can be done. *Technorama* really is such a fun adventure.
- Daughter Livia (11) – Explorer
  Relation to *Technorama*: Bubbling with energy and curiosity. She observes, tries things out, and draws the family to places in the park that they might not have otherwise discovered. She is also very inquisitive and loves to learn.
- Daughter Annina (9) – Recharger
  Relation to *Technorama*: Likes being cozy and loves nature and everything in it. She likes to discover the park and enjoys nature here very much, too. Sometimes it doesn't have to be more than that.

Figure 9: Image excerpt of a *Technorama* campaign video clip (*Technorama*, 2021)

This marketing campaign with the family phenotypes resulted in a campaign consisting of twelve different video clips which, styled as authentic video reportage, bore witness to the value of a visit to *Technorama*. It was distributed via the social media platforms Facebook and YouTube as paid posts, supplemented with Google SEA. The figure above represents the family described with Falk's phenotypes and is being used for the marketing campaign for the new *Technorama* Outdoors.

The approach based on Falk's phenotypes is meant to create a sense of proximity, as claimed by Tröndle (2019). Digital marketing, especially through social media, allows targeting of these segments separately, effectively, and with little scatter loss, using specific messages and content for each target group.

To evaluate the intended change of perception of the organization, *Technorama* should conduct the survey regularly. A repetition after approximately three years is recommended after the park project is completed. Of particular interest for future studies is the impact of the new park on *Technorama `s* image as a bad weather destination with visitors and non-visitors, as well as its impact on attendance levels. In relation to pricing, the outcomes of the study in relation to the relevant literature are not straightforward. Our survey findings are consistent with the literature in terms of subjective barriers (RENZ 2015). Yet, according to the traditional assumption in cultural economics of inelastic demand for

the arts (SEAMAN 2006), a price adjustment alone would not dramatically increase the interest of non-visitors, and our survey showed that high prices are not at the top of reasons not to visit. This indicates, in line with the literature, that targeted outreach, communications and offerings are also necessary.

Conclusion

Our study sheds light on the methodological, managerial, and communicative ways an organization can draw on systematic visitor and non-visitor research to generate empirically valid insights about diverse target groups, which allows it to better engage with visitors and non-visitors. Our insights assume a broad interpretation of the concept of audience development for which systematic non-visitor research is crucial. Only by acknowledging, and better understanding the differences between visitors and non-visitors, as well as the differences among non-visitor groups, can an organization systematically adjust its offerings and communications accordingly. In line with Tröndle (2019), cultural organizations can then better understand which non-visitor groups are impossible to target in terms of creating a sense of proximity to arts and cultural organizations while legitimizing this result for the purposes of policy making. In addition, regular repetition of surveys will allow the measures implemented to be evaluated.

The above understanding of how to engage with audiences implies a shift in the thinking of arts and cultural organizations to one of understanding that more resources need to be allocated for research and evaluation, which have been treated with some skepticism in the arts and cultural sector (LABARONNE 2017). Cultural policy can foster this development by promoting and funding visitor/non-visitor research and evaluation above and beyond normal subsidies. This is already the case with some private funding agencies, who are earmarking a percentage of their funding for audience research.

Our paper has limitations and suggests avenues for further research. The empirical work conducted for *Technorama* as elaborated in the methodology section draws on generally approved and accepted scales (Falk visitor typologies, NPS). This allows for benchmarking as well. Yet, our article is based on a single case study, which limits the generalizability of findings. For example, depending on the specific cultural institution, the distribution of the five phenotypes may vary. The methodology

described, however should provide insights for similar organizations in their design of visitor studies and for the systematic use of survey findings to inform strategic decision-making.

We believe our insights advance scholarly discussion at the intersection of non-visitor studies and audience development, in particular by complementing Falk's phenotypes with differentiated knowledge of non-visitor groups. Further studies can validate our approach for different cultural offerings, such as those of performing arts organizations. We hope that our study also offers insights informing arts management practitioners and cultural policymakers alike when meeting the challenges of engaging with audiences and addressing new target groups.

References

ARTS COUNCIL (2003): *New Audiences Programme*.

BFS (2016): Das Kultur- und Freizeitverhalten in der Schweiz <https://dam-api.bfs.admin.ch/hub/api/dam/assets/349943/master> [April 5, 2023].

BODMER, Walter F. (1986): *The public understanding of science*. Birkbeck College.

COGMAN, Louise (2013): *Audience Development: strategies, campaigns and tactic*. <http://culturehive.co.uk/wp-content/uploads/2013/04/Arts-Derby-audience_development_toolkit.pdf>.[10.4.2023].

DIGGLE, Keith (1984): *Guide to arts marketing*. London: Rhinegold.

ECKHARDT, Josef/PAWLITZA, Erik/WINDGASSE, Thomas (2006): Besucherpotenzial von Opernaufführungen und Konzerten der klassischen Musik. – In: *Media perspektiven* 5, 273–282.

FALK, John H./HEIMLICH, Joe E./BRONNENKANT, Kerry (2008): Using identity-related visit motivations as a tool for understanding adult zoo and aquarium visitors meaning-making. – In: *Curator: The Museum Journal* 51(1), 55–79.

FALK, John H. (2009): *Identity and the Museum Visitor Experience*. Walnut Creek: Left Coast Press.

FLYVBJERG, Bent ([4]2011): Case study. – In: Denzin, Norman K./Linkoln, Yvonna S. (eds.), *The Sage Handbook of qualitative research*. Thousand Oaks/CA: Sage, 301–316.

FRENZEL, Linda (2017): *Besucherforschung als Instrument des Audience Development in Kunstmuseen* [Visitor research as an instrument of audience development in art museums]. Aachen: Shaker.

FRENZEL, Linda (2019): Digitales Audience Development in Museen. – In Pöllmann, Lorenz/Herrmann, C. (Hgg.): *Der digitale Kulturbetrieb: Strategien, Handlungsfelder und Best Practices des digitalen Kulturmanagements*. Wiesbaden: Springer, 293–314.

FREY, Bruno/STEINER, Lasse (2012): Pay as you go: A new proposal for museum pricing. – In: *Museum Management and Curatorship* 27(3), 223–225.

HENDON, William S. (1990): The General Public's Participation in Art Museums. – In: *American Journal of Economics and Sociology* 59(4), 439–458.

HOOD, Marilyn G. (1983): Staying Away. Why people choose not to visit Museums. – In: *Museum News* 61(4), 50–57.

HOOD, Marilyn G. (2004): Staying away. Why people choose not to visit a museum. – In: Anderson Gail, *Reinventing the Museum: Historical and Contemporary Perspectives on the Paradigm Shift*. Lanham: AltaMira Press, 50–157.

KEUCHEL, Susanne (2003): *Rheinschiene – Kulturschiene*. Bonn: ARCult.

KIRCHBERG, Volker (1996): Museum visitors and non-visitors in Germany. A representative survey. – In: *Poetics* 24(2), 239–258.

KIRCHBERG, Volker (2005): *Gesellschaftliche Funktionen von Museen. Makro-, meso- und mikrosoziologische Perspektiven. Berliner Schriften zur Museumskunde*. Wiesbaden: Springer.

KIRCHBERG, Volker/KUCHAR, Robin (2013): A Survey of Surveys. Eine international vergleichende Metastudie repräsentativer Bevölkerungsstudien zur Kulturnutzung. – In: *Evaluation in Kultur und Kulturpolitik: Eine Bestandsaufnahme*. Münster: Waxmann, 163–192.

KISSLING, Carmen/KOPPENHAGEN, Thorsten (2015): *Modellierung von Zielgruppen* [Modelling of target groups]. Wolfenbüttel: Ostfalia Hochschule für Tourismus und Regionalforschung/ Phaeno.

KLEIN, Hans-Joachin./BACHMEYER, Monika (1981): *Museum und* Öffentlichkeit. *Fakten und Daten, Motive und Barrieren*. Berlin: Mann.

LABARONNE, Leticia (2017): Performance measurement and evaluation in arts management: A meta- synthesis. – In: *Zeitschrift für Kulturmanagement* 3(1), 37–69.

LABARONNE, Leticia/SLEMBECK, Tilman (2015): Dynamic pricing in subsidized performing arts. – In: *International Journal of Nonprofit and Voluntary Sector Marketing* 20(2), 122–136.

LIPPS, Benita (Ed.). (2015): *Culture. Shift. Creative Leadership for Audience-Centric Performing Arts Organisations. A Theatron Toolkit for Strategic Audience Development*. Theatron.

MANDEL, Birgit (2008): *Audience Development, Kulturmanagement, kulturelle Bildung. Konzeptionen und Handlungsfelder der Kulturvermittlung*. München: kopaed.

MORF, Fabien/WALTHERT, Reimar (2021): Kulturbesuche in Zeiten von Corona <www.newsd.admin.ch/newsd/message/attachments/67563.pdf> [March 30, 2023].

PHELAN, Siëlle/BAUER, Johannes/LEWALTER, Doris (2018): Visit Motivations: Development of a Short Scale for Comparison across Sites. – In: *Museum Management and Curatorship* 33(1), 25–41.

PRENTICE, Richard/DAVIES, Andrea/BEEHO, Alison (1997): Seeking Generic Motivations for Visiting and Not Visiting Museums and Like Cultural Attractions. – In: *International Journal of Museum Management and Curatorship* 16(1), 45–70.

REICHHELD, Fred F. (2003): The one number you need to grow. – In: *Harvard business review* 81(12), 46–55.

RENZ, Thomas/MANDEL, Birgit (2010): *Barrieren in der Nutzung kultureller Einrichtungen. Eine qualitative Annäherung an Nicht-Besucher* <www.fachverband-kulturmanagement.org/wp-content/uploads/2010/07/Onlinetext_Nicht-Besucher__Renz-Mandel1.pdf> [March 10, 2023].

RENZ, Thomas (2015): *Nicht-Besucherforschung: Die Förderung kultureller Teilhabe durch Audience Development*. Bielefeld: Transkript.

SWISS SCIENCE CENTER *TECHNORAMA* (2020): *Geschäftsbericht 2019*.

SZOPE, Dominika (2019): Smart places. Kulturinstitutionen im 21. Jahrhundert. – In: Pöllmann, Lorenz/Herrmann, C. (Hgg.), *Der digitale Kulturbetrieb: Strategien, Handlungsfelder und Best Practices des digitalen Kulturmanagements*. Wiesbaden: Springer Gabler, 293–314.

TODD, Sarah/LAWSON, Rob (2001): Lifestyle Segmentation and Museum/ Gallery Visiting Behaviour. – In: *International Journal of Nonprofit and Voluntary Sector Marketing* 6(3), 269–277.

TRÖNDLE, Martin (2019): *Nicht-Besucherforschung: Audience Development für Kultureinrichtungen*. Wiesbaden: Springer VS.

WAGENSCHEIN, Martin (2010): *Verstehen lehren: genetisch, sokratisch, exemplarisch*. Weinheim Basel: Beltz.

WEGNER, Nora (2016): Museumsbesucher im Fokus Befunde und Perspektiven zu Besucherforschung und Evaluation in Museen. – In: Glogner-Pilz, Patrick/Föhl, Patrick (Hgg.), *Handbuch Kulturpublikum*. Wiesbaden: Springer VS, 97–152.

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