TALL

Contents

1 Textual Analysis with TALL

To refine the textual analysis of the interview and focus group transcripts, we employed an artificial intelligence software, TALL, whose results help to enhance the robustness and interpretative transparency in organizing the collected textual data. The objective was also to verify whether the findings obtained through manual analysis would similarly emerge from an automated process guided by statistical–lexical criteria. The outcomes of the analysis are stored in an Excel file entitled TALL Report for Interviews and Focus Groups and are discussed in the following sections with the support of graphical representations.

The TALL analysis was conducted on a corpus consisting of 20 documents, labeled with the code `doc_ID`, each corresponding to a single question posed to the interviewees, for which responses were aggregated by question. Each response comes from an interviewee involved either in individual interviews or focus groups and is identified in the documents as `P`i, with $i = 1, \ldots, 9$ (see interview transcripts for the correspondence between interviewee i and the code `P`i).

1.1 Pre-processing Phase

The significance of the results obtained through the application of the TALL algorithm is strongly dependent on the selection of variables during the pre-processing phase. The structure of the corpus is presented in the table below.

Description	Values
Documents	20
Tokens	6883
Types	1341
Lemma	1211
Sentences	342
Docs Avg Length in Chars	1677
Docs SD Length in Chars	1209
Doc Avg Length in Tokens	344
Doc SD Length in Tokens	251
Sent Avg Length in Tokens	20
Sent SD Length in Tokens	14
Sent Avg Length in Chars	98
Sent SD Length in Chars	70
TTR (%)	19,48
Hapax (%)	52,1
Guiraud Index	16,2
Lexical Density	41,5
Nominal Ratio	2,23
Gini Index	0,7
Yule's K	94,5

We added relevant multiwords composed of adjectives, adverbs, nouns, and verbs by applying the RAKE algorithm, setting a minimum frequency of 2 and an n-gram length of 4. Since the analysis was conducted on a corpus of non-synthetic responses addressing multiple aspects of the Neovision service, it was necessary to define a dedicated Excel file for the Custom PoS List, in which we included a list of words to be excluded from the final results. These words—such as certain verbs—were observed during the initial analysis phase to occur with such high frequency that they tended to dominate the output, overshadowing topics of actual interest and leading to results that were not meaningful.

This issue arises from an automated analysis based on co-occurrence counts, which does not account for semantic relevance. Accordingly, the PoS tags considered, as selected in

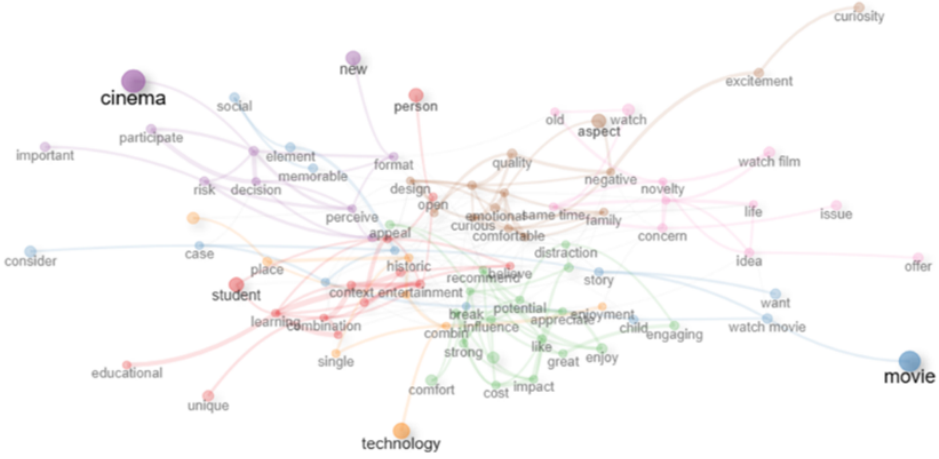
the PoS Tag Selection window, were limited to ADJ (adjective), MULTIWORD, NOUN (noun), and VERB (verb).

1.2 Analysis

1.2.1 WordCloud

The WordCloud generated by TALL provides a visual overview of the most recurrent concepts in the interview transcripts. Each word is displayed with a size proportional to its frequency of occurrence. Terms such as *experience*, *cinema*, *event*, *film*, and *feel* express the sensory dimension of the service, going beyond mere film viewing. Curiosity and a willingness to try a service perceived as innovative and immersive emerge, particularly within cultural locations and supported by smart glass technology.

Words that draw particular attention include *aspect*, *comfort*, and *concern*, which warrant further contextual analysis due to the potential critical issues they may indicate. Overall, the findings reveal a generally positive orientation toward innovation in the Neovision offering.



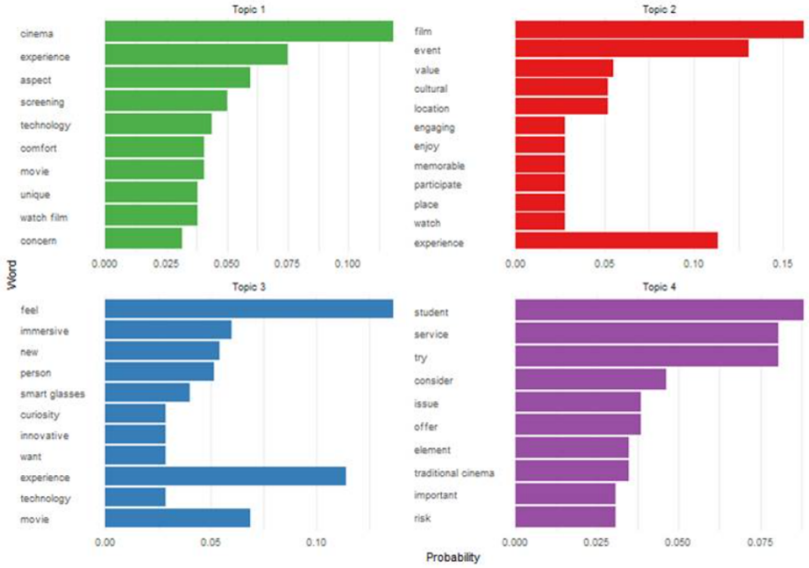
The Co-Word Analysis map generated by TALL illustrates how words are interconnected within the interviewees' responses. At the center of the map appear terms such as *emotional*, *comfortable*, *curious*, *appeal*, *design*, *quality*, and *negative aspect*. This suggests

that the attractiveness of the service is closely linked to the balance between the emotional experience and physical comfort.

Another visible cluster in the lower-left area includes terms such as *student*, *learning*, *educational*, *historic*, *place*, and *combination*, indicating a perceived unique learning experience for students within this context.

A further relevant network is located in the lower area of the map and is related to technological innovation. Closely connected terms include *technology*, *strong*, *cost*, *impact*, *comfort*, and *combination*. This highlights the need for technology to balance physical comfort with economic considerations.

2 Topic Analysis



2.1 Topic Analysis in TALL

Topic analysis in TALL consists of identifying semantic structures within large collections of documents through the use of generative statistical models. Probabilistic modeling enables the discovery of underlying themes, the assignment of topic membership scores to documents, as well as the definition of correlation indices among topics. In order to obtain a global overview of the macro-topics present in the corpus and to avoid overlap, the option Topic by Docs was selected. The algorithm extracted four topics, which are interpreted semantically below.

2.1.1 Topic 1 – Service Structure and User Concerns

Topic 1 focuses on the technical aspects of Neovision's service delivery and the modalities of film viewing. Dominant terms within this topic include *cinema*, *experience*, and *screening*, combined with *technology*, *comfort*, and *concern*. This suggests that users, once informed about the Neovision offering, critically evaluate the practical aspects of the viewing experience and the balance between innovation and comfort.

This topic is fully consistent with **Topic 3: Comfort, Safety, and Usability** identified through the manual analysis described in the previous section.

2.1.2 Topic 2 – Cultural and Social Value

Topic 2 reflects the perception of the cultural and social value that customers may experience when accessing the Neovision service. Terms such as *experience*, *enjoy*, *engaging*, and *participate* indicate that the experience is perceived as a moment of social aggregation and active participation. Additionally, words such as *event*, *cultural*, *value*, and *location* highlight interest in the cultural dimension of events in synergy with the venues in which they take place.

This topic overlaps transversally with **Topic 2: Immersive and Social Experience** and **Topic 6: Cultural and Educational Value** identified through the manual analysis presented in the previous section.

2.1.3 Topic 3 – Curiosity and Immersive Innovation

Topic 3 concerns the emotional reactions associated with experiencing the immersive potential enabled by smart glasses. The presence of terms such as *curiosity* and *want*, combined with *immersive*, *smartglasses*, *innovative*, and *technology*, expresses attraction toward a new, immersive experience driven by smart glass technology.

This topic intersects with **Topic 1: Attraction and Curiosity** and partially with **Topic 2: Immersive and Social Experience** identified through the manual analysis described earlier.

2.1.4 Topic 4 – Student Target and Risk Management

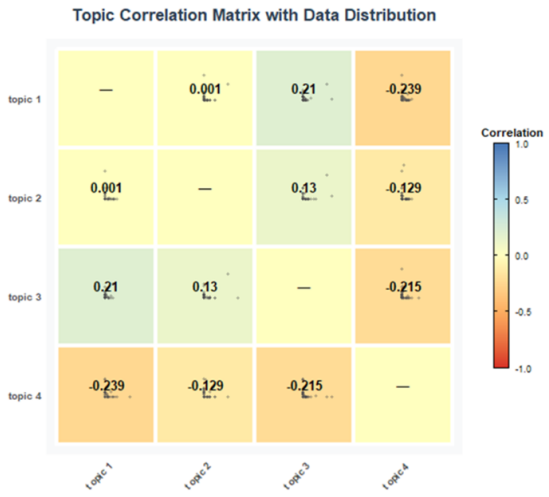
Topic 4 focuses on Neovision's service offering for the student segment, combined with the economic risks associated with the novelty of the format. The cluster of terms *student*, *try*, and *service* confirms Neovision's strategic choice to design packages for schools, especially when considered alongside terms such as *issue*, *risk*, and *traditional cinema*. These latter terms emphasize the perceived economic risk of participating in a service that differs from traditional cinema offerings.

This topic intersects with **Topic 4: Price and Economic Risk** identified through the manual analysis described in the previous section.

2.2 Comments on TALL Topic Analysis

Overall, the centrality of the term *experience* is evident, as it appears across nearly all topics with high probability. In conclusion, the statistical model implemented for topic analysis successfully captured both the *practical dimension* of the Neovision experience—related to comfort, technology, and perceived risk—and the *emotional dimension* linked to immersion and curiosity.

3 Topic Correlation Matrix



The Topic Correlation Matrix allows for the measurement of the level of interaction among topics.

A *positive correlation* occurs when two topics tend to appear together; specifically, if an interviewee discusses Topic A, they are also likely to discuss Topic B.

A *negative correlation* occurs when two topics move in opposite directions; specifically, if an interviewee discusses Topic A, they are unlikely to also discuss Topic B.

The most significant positive correlation is observed between **Topic 1 – Service Structure and User Concerns** and **Topic 3 – Curiosity and Immersive Innovation**, with a value of 0.21. This relationship indicates that, on the one hand, interviewees are curious about experiencing immersive cinema, while on the other hand they simultaneously express concerns regarding the comfort of smart glass technology.

A positive correlation of 0.13 between **Topic 2 – Cultural and Social Value** and **Topic 3 – Curiosity and Immersive Innovation** highlights the perception of an immersive emotional experience that is amplified by the event context.

The strongest negative correlation emerges between **Topic 1 – Service Structure and User Concerns** and **Topic 4 – Student Target and Risk Management**. Overall, this suggests that the more aware users are of potential risks, the less they focus on the positive aspects of Neovision's cinematic experience.

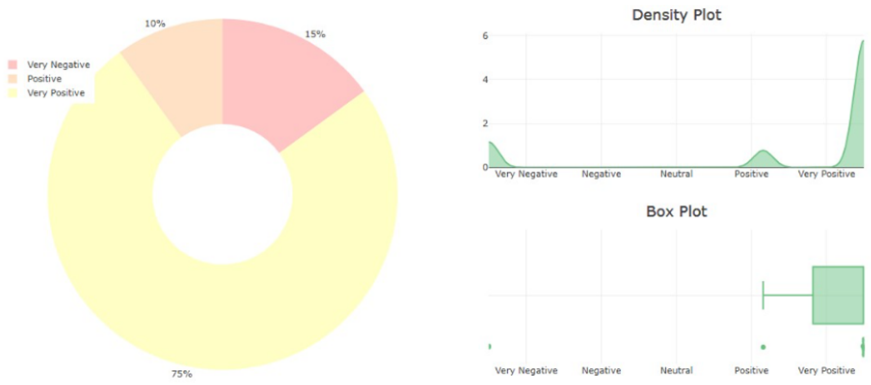
The second most significant negative correlation is found between **Topic 3 – Curiosity and Immersive Innovation** and **Topic 4 – Student Target and Risk Management**. Concerns about potential issues or risks appear to dampen enthusiasm for the novelty of Neovision.

Finally, a near-independence can be observed between **Topic 1 – Service Structure and User Concerns** and **Topic 2 – Cultural and Social Value**, with a correlation value of 0.001. This indicates that discussions related to technology and those related to the cultural value of the location may develop in parallel without being necessarily connected.

4 Comparison between Manual Topic Analysis and TALL Topic Analysis

From a methodological perspective, a convergence of results emerges between the manual analysis—based on interpretative insight and in-depth textual understanding—and the automated analysis performed by the TALL software, which relies on statistical algorithms. Despite the use of different analytical approaches, a strong overall conceptual coherence is observed among the identified topics, which can be summarized into three overarching dimensions: *Innovation and Curiosity*, *Cultural and Social Value*, and *Risks and Barriers*.

5 Sentiment Analysis



Sentiment analysis is a useful technique for determining whether a document expresses a positive, negative, or neutral sentiment. The objective is to support operational marketing decision-making by extracting positive or negative emotions from the interviewees' opinions. Within the Excel file TALL Report for Interviews and Focus Groups, the worksheet entitled Polarity Detection contains a table in which each row corresponds to a document. For each document, the polarity category, the list of positive words, and the list of negative words are reported.

As shown by the pie chart representation, an overall positive sentiment emerges in approximately 85% of the 20 documents processed by the TALL software. In contrast, 15% of the documents display a *very negative* sentiment.

doc_id	Polarity	Polarity Category
doc_01	1	Very Positive
doc_02	-0,999959	Very Negative
doc_03	1	Very Positive
doc_04	0,9977749	Very Positive
doc_05	1	Very Positive
doc_06	0,9996319	Very Positive
doc_07	1	Very Positive
doc_08	-0,999753	Very Negative
doc_09	-0,999994	Very Negative
doc_10	0,9999963	Very Positive
doc_11	0,9981779	Very Positive
doc_12	0,9999997	Very Positive
doc_13	0,9999933	Very Positive
doc_14	0,4621172	Positive
doc_15	1	Very Positive
doc_16	1	Very Positive
doc_17	0,4621172	Positive
doc_18	0,997283	Very Positive
doc_19	0,9926315	Very Positive
doc_20	0,9998891	Very Positive

5.1 Positive/Very Positive Documents

- **doc_01 and doc_04** refer to interviewees' initial reactions of curiosity and enthusiasm toward Neovision's innovative cinematic offering, even when a comparison is made with watching films comfortably at home (see also **doc_03**).
- **doc_05 and doc_12** highlight the cultural value and prestige associated with the choice of historical locations, perceived as integral parts of the experience, in collaboration with FAI and the Ministry of Culture.
- **doc_07** emphasizes the reduction of economic risk for customers: the guarantee of subscription recovery provides users with a sense of peace of mind.
- **doc_16, doc_18, and doc_20** relate to the **Family** target segment. The combination of films with dynamic activities such as karaoke and themed parties transforms the family cinema experience from stressful to extremely enjoyable, thereby encouraging participation.
- **doc_11, doc_14, doc_17, and doc_19** concern the **School** target segment. The positive sentiment is driven by the perceived effectiveness of learning, to the extent that it surpasses traditional educational methods.
- **doc_13 and doc_15** refer to the social interaction among customers enabled by post-screening events and the sharing of the experience with friends and family.

5.2 Negative/Very Negative Documents

- **doc_08** (partially) and **doc_09** reveal a negative sentiment toward the service. Interviewees mention nausea, discomfort, weight, reliability issues of smart glasses, feelings of isolation, visual fatigue, hygiene concerns, and loss of concentration. Concerns about these aspects may reduce attraction and curiosity toward the experience.
- **doc_02** falls into the very negative category not due to negative perceptions of Neovision, but rather because of negative views of contemporary cinema, described as passive and standardized.

6 Implications for Neovision's Decision Making

Based on the combined analysis, Neovision's strategies will focus on reinforcing the collective dimension of the experience, offering not merely a screening but an attractive, immersive, and engaging experience, also through complementary ancillary services. At the same time, a differentiated pricing strategy will be adopted, with tailored packages for families and schools, in order to enable broad participation while placing the customer at the center.

With regard to the critical issues raised—particularly those related to the use of smart glasses, which are considered key drivers of immersive emotion—Neovision commits to adopting high-performance devices and implementing strict sanitation protocols, given their shared use. The overarching goal is to achieve complete customer satisfaction by delivering an experience of high cultural value.