

Perceived Onboard Passengers' Experience: Flight Attendants' Point of View

Golnoosh TORKASHVAND¹, Lucas STEPHANE², Peter VINK³

^{1,2} Florida Institute of Technology, 150 W. University Blvd, Melbourne, Florida 32901, USA

³ Faculty of Industrial Design Engineering, Delft University of Technology, Landbergstraat 15, 2628 CE Delft, the Netherlands

*Corresponding Author: Golnoosh Torkashvand, Tel: +1 (647) 671 3303, e-mail: gtorkashvand2014@my.fit.edu,

Abstract Cabin research is mostly based only on passenger reports of their own experiences. However, service plays a very important role in influencing passenger experience. Consequently, it is also important to consider the perceptions of flight attendants as onboard service providers, since they can convey a complementary view shedding light on important aspects related to passenger experience. Therefore, this study focuses on analyzing flight-attendants' perception of passengers' inflight activities and experience, as part of a broader study on cabin design optimization for enhancing passenger experience. The study was initiated with a brainstorming session involving 10 human-centered design experts that, through retrospective knowledge elicitation, enabled to identify twenty-three main activities that passengers most often do onboard during long-haul commercial flights. Based on these activities, we then designed a 10-question survey and submitted it to flight attendants. Twenty-seven flight attendants participated in this survey. Respondents were asked to rate on Likert scales, from "not at all important" to "extremely important" their perception of how important the above-mentioned activities are to passengers. Similarly, they were also asked to rate their perception on how satisfactory these activities are to passengers, ranging from "not at all satisfactory" to "extremely satisfactory". Finally, the survey included a complementary open-feedback question on innovative solutions for the future of commercial aviation from the flight attendants' point of view. An analysis of flight attendants' ratings of these passenger activities was performed. In addition, a comparison of both passengers' and flight attendants' perceptions was carried out in order to identify possible relationships between the perspectives of these two populations

Keywords: passenger satisfaction, activities, cabin design, passenger experience, flight attendant

1 Introduction

Passenger experience is a recent interesting topic in air travel (De Lille et al, 2016). Despite the industry focus and attention for airport passenger experience, very little is known about passenger needs in flight (Harrison et al., 2012); (Popovic et al, 2010). It is important to understand these needs since they play an important role in airline profitability. Inflight activities represent measurable components of passenger experience (Torkashvand et al, 2019). For airliners to expand their knowledge on what impacts the passenger experience, it is mostly common to focus on passengers themselves as users of the cabin and the services. While focusing on passengers for eliciting knowledge is critical in understanding passenger experience, there is an additional

way to define and assess passenger experience; This includes eliciting knowledge from flight attendants as subject matter experts. This target group can provide valuable key information on passengers’ perceptions of various activities and the overall related experience. This expert knowledge is the result of their regular interactions in the cabin when providing services to passengers. They observe passengers in the cabin, listen to their complaints and comments and provide them with the services they ask for. They can convey a complementary viewpoint on important aspects that impact passenger experience.

2 Methodology

The study was initiated with a brainstorming session involving 10 human-centered design experts that, through retrospective knowledge elicitation, enabled to identify twenty-three main activities that passengers most often perform onboard during long-haul commercial flights, Table 1. Based on these activities, we then designed a survey of 10 questions and submitted it to flight attendants. Twenty-seven flight attendants participated in this survey. Respondents were asked to rate on 5-point Likert scales, from “not at all important” to “extremely important” their perception of how important the above-mentioned activities are to passengers. Similarly, they were also asked to rate their perception on how satisfactory these activities are to passengers, ranging from “not at all satisfactory” to “extremely satisfactory”. These results were later compared with the other results from a previous research study on passengers’ perception of inflight experience related to various activities (Torkashvand et al, 2019). The passenger-perception study implemented a survey of 26 questions which were answered by 93 respondents. For comparing if there is a significant difference between flight attendants and passengers in perception of passenger experience, Fisher's F-tests for assessing the equality of variances were initially conducted. The tests assess the null hypothesis on whether two normal populations have the same variance. If the variances are equal, we then used the two-sample t-test with equal variances. This way we could determine if the means of two sets of data are significantly different from each other or not. For the significant F-test results, we used Welch's t-test, or t-test with unequal variances.

Table 1: Twenty-three activities that passengers perform during long-haul flights

<i>Activities</i>	
1. Resting/Relaxing	13. Walking in the cabin (exercise)
2. Sleeping	14. Taking care of family/kids
3. Listening to Music	15. Being physically active/stretching
4. Reading books/magazines/e-reader	16. Looking outside of the window
5. Talking to other group-mates	17. Egress in/out of the seat
6. Talking to neighbors	18. Using the restroom
7. Eating/drinking	19. Listening to flight communication
8. Thinking and observing	20. Boarding
9. Working on laptop, tablet.etc	21. Deboarding
10. Playing, working with cell phone	22. Interacting with flight attendant
11. Watching in-flight movies	23. Adjusting seat features
12. Checking real-time flight info.	

3 Results

Overall, flight attendants perceived activities ‘resting/relaxing’, ‘sleeping’ as well as ‘using the restroom’ as the most important passengers’ activities, while activities ‘talking to neighbors’ and ‘thinking and observing’ were the least important ones, Figure 1. On the other hand, they perceived the highest passenger satisfaction for activities ‘resting/relaxing’ and ‘sleeping’ as well as ‘watching IFE’. Moreover, they think of activities ‘talking to neighbors’ and ‘being physically active’ as the least satisfactory ones to passengers, Figure 2.

The t-test analysis showed that there seems to exist a significant difference between passengers' perception of the importance of activities and the flight attendants' perception of their importance to passengers. For activities 'Talking to other groupmates', 'Listening to Music', 'Looking outside the window', 'Working on laptop/tablet' and 'Taking care of family and kids' there is a significant difference observed, Table 2. Flight attendants considered the importance of 'Talking to other groupmates' more than what the passengers themselves thought. Similarly, they considered more importance for the activities 'Listening to Music', 'Working on laptop/tablet' and 'Taking care of family and kids' than the passengers themselves. On the other hand, activity 'Looking outside the window' is considered less important to passengers compared to flight attendants. Regarding the perception of satisfaction, the t-test analysis showed more similarity between the two groups of participants. Except for the activity 'Listening to Music' satisfaction perception is not different in both groups, Table 3. Flight attendants' perception of the satisfaction raised by the activity 'Listening to Music' however, is higher compared to the passengers' assessment of their satisfaction with the mentioned activities.

Figure 1: Perceived importance of activities by flight attendants

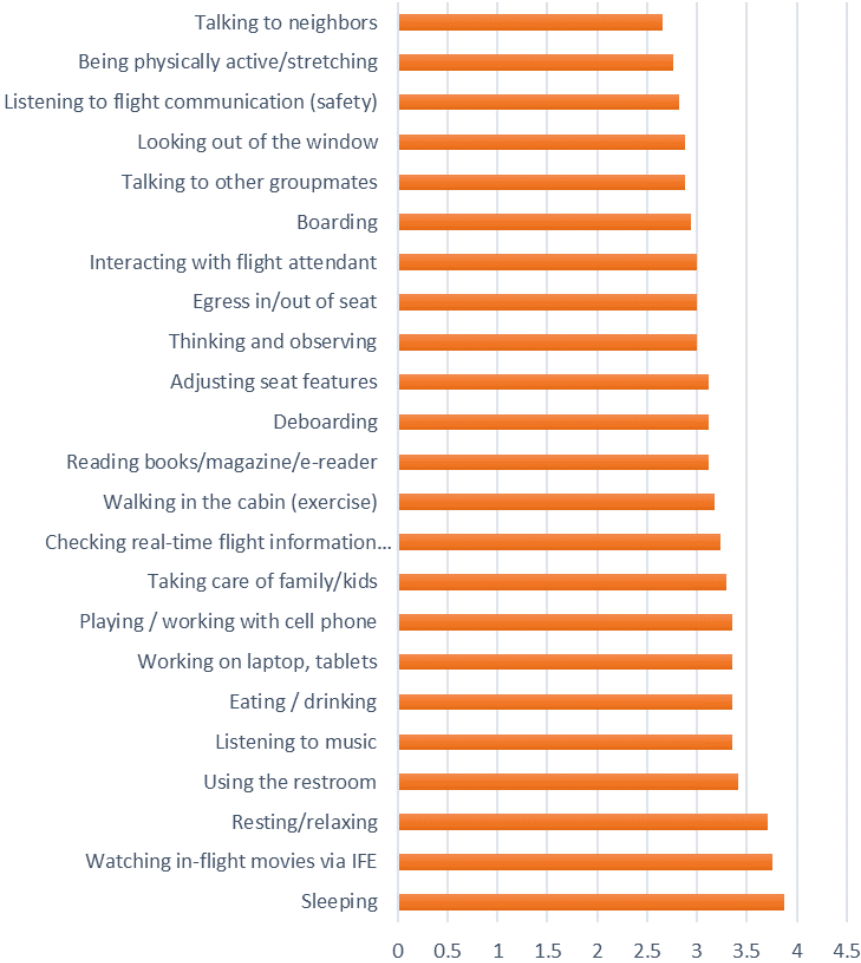
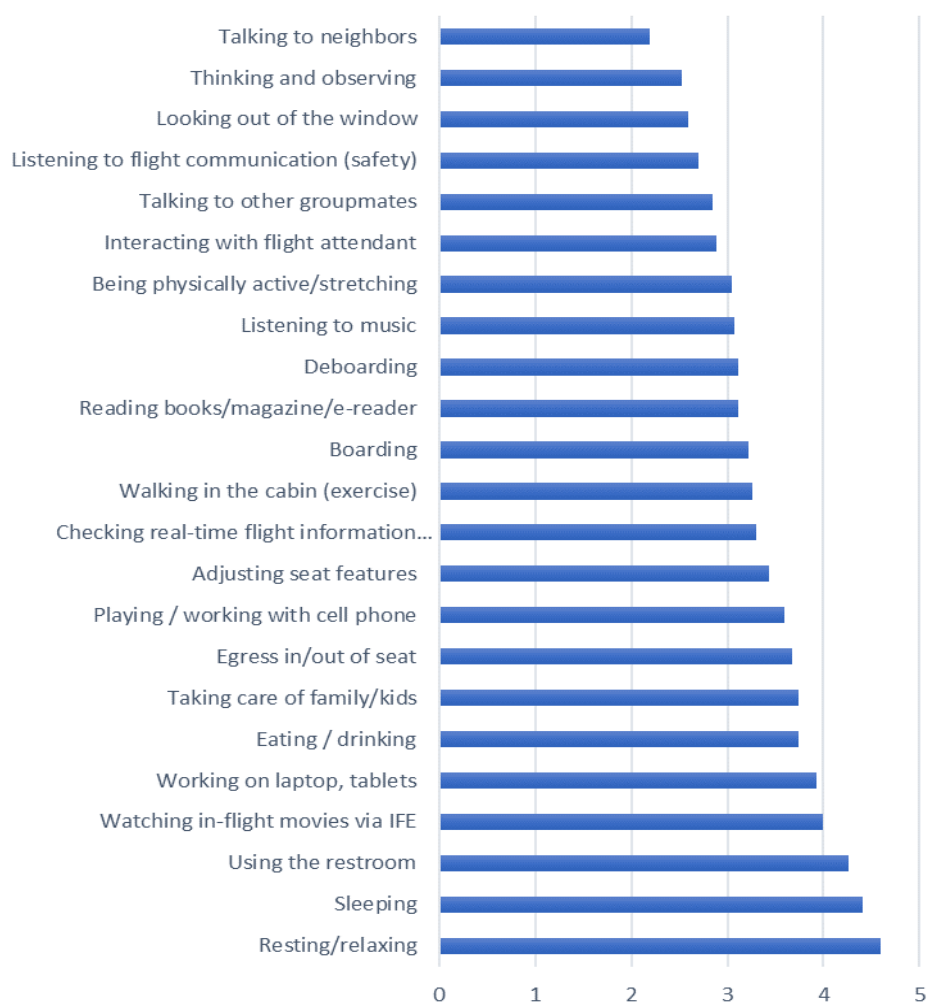


Figure 2: Perceived satisfaction by activities by Flight attendants



4 Conclusions

The results of the comparison between the two populations of service providers and end users of the cabin confirm some assumption that companies' knowledge about their customers' satisfaction by products and services can be considered reliable. However, this knowledge is mostly not reliable about real customer needs. This means that finding needs is not possible without having customers involved in the need-finding design thinking stage. This is also a very basic fundamental in the human-centered approach, i.e. involving users in the design process from the very early stages of design by using techniques such as co-design, concept testing, usability testing, etc. Furthermore, the importance of knowledge elicitation from domain experts is crucial, especially for complex systems such as air travel, including inflight passenger experience.

Table 2: Two sample t-test for comparison of passenger and Flight attendants on importance of activities

<i>Activities</i>	<i>F- test P-value</i>	<i>t-test P-value</i>	<i>Mean 1*</i>	<i>Mean 2*</i>
Talking to other groupmates	0.0008	0.249	-0.345	-0.148
Listening to Music	0.008	0.921	0.054	0.074
Looking outside of the window	0.033	0	0.436	-0.407
Working on laptop, tablet.	0.035	0.013	0.381	0.925
Taking care of family/kids	0.039	0.898	0.709	0.74

Reading books/ magazines/e-reader	0.052	0.867	0.072	0.111
Egress in/out of the seat	0.053	0.609	0.763	0.666
Walking in the cabin (exercise)	0.146	0.035	0.781	0.259
Checking real-time flight info.	0.155	0.657	0.4	0.296
Playing, working with cell phone	0.197	0.067	0.072	0.592
Watching in-flight movies	0.238	0.082	-0.853	0.053
Resting/Relaxing	0.254	0.073	1.345	1.592
Eating/drinking	0.303	0.086	1.072	0.74
Talking to neighbors	0.386	0.88	-0.781	-0.814
Using the restroom	0.516	0.567	1.363	1.259
Interacting with flight attendant	0.516	0.053	0.309	-0.111
Deboarding	0.566	0.014	0.69	0.111
Sleeping	0.607	0.047	1.072	1.407
Thinking and observing	0.627	0.00E+00	0.454	-0.481
Being physically active/stretching	0.641	0.00E+00	0.945	0.037
Adjusting seat features	0.648	0	1.127	0.444
Listening to flight communication	0.906	0.238	0.054	-0.296
Boarding	0.975	0.115	0.618	0.222

1*: Passengers 2*: Flight Attendants

Table 3: Two sample t-test for comparison of passenger and Flight attendants on satisfaction by activities

<i>Activities</i>	<i>F- test P-value</i>	<i>t-test P-value</i>	<i>Mean 1*</i>	<i>Mean 2*</i>
Listening to Music	0.002	0.591	0.254	0.352
Eating/drinking	0.061	0.527	0.2	0.352
Looking outside of the window	0.138	0.192	0.218	-0.117
Talking to other groupmates	0.212	0.317	-0.24	0.73
Talking to neighbors	0.255	0.279	-0.09	-0.352
Reading books/magazines/e-reader	0.312	0.806	0.181	0.117
Playing, working with cell phone	0.343	0.328	0.072	0.352
Thinking and observing	0.368	0.125	-0.108	0.872
Taking care of family/kids	0.434	0.418	0.072	0.294
Working on laptop, tablet etc.	0.477	0.356	-0.755	0.275
Adjusting seat features	0.485	0.244	-0.2	0.117
Sleeping	0.507	0	-0.327	0.882
Deboarding	0.511	0.8	0.181	0.117
Watching in-flight movies	0.581	0.184	-0.771	0.151
Egress in/out of the seat	0.613	0.262	-0.272	0
Boarding	0.713	3.40E-01	0.2	-0.058
Checking real-time flight info.	0.714	0.606	0.363	0.235
Interacting with flight attendant	0.72	0.123	0.327	0
Using the restroom	0.738	0.911	0.381	0.411
Listening to flight communication	0.787	2.99E-01	0.109	-0.176
Being physically active/stretching	0.79	0.808	-0.163	-0.235
Walking in the cabin (exercise)	0.833	0.507	-0.018	0.176
Resting/Relaxing	0.893	0.004	-0.072	0.705

1*: Passengers 2*: Flight Attendants

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