Commercial Space Travel for the Masses but Will People Ride? A Preliminary Analysis
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Abstract
Through nearly 60 years of space travel there have been approximately 530 individuals who have attempted space flight. The vast majority of these individuals were government sponsored astronauts. Since the advent of commercial space travel, less than ten private citizens have gone into space. Several companies are banking on regular space tourism appealing to consumers. As the dream of space tourism becomes a reality, companies like SpaceX, Blue Origin, and Virgin Galactic are investing billions of dollars in the race to be the first private company to offer routinely scheduled and affordable commercial spaceflights. Understanding future customers is vital to the economic viability of this new industry. However, customer opinions have not been widely published exposing a need for additional research.

Can willingness to ride be predicted?

Introduction
The first space tourist was a billionaire businessman who spent nearly 8 days on the International Space Station in 2001, reportedly paying $20 million to be shuttle both ways on a Russian Soyuz spacecraft1. The company that facilitated the excursion, Space Adventures, sent an additional six paying customers to space over the next 10 years. Another milestone towards civilian space travel came in 2004 with SpaceShipOne, a private spacecraft, earning the $10 million Ansari XPRIZE, a private space travel competition, “to usher in a new era of private space travel”2. As the dream of space tourism becomes a reality, companies like SpaceX, Blue Origin, and Virgin Galactic are investing billions of dollars in the race to be the first private company to offer routinely scheduled and affordable commercial spaceflights.

Understanding future customers is vital to the economic viability of this new industry. However, customer opinions have not been widely published exposing a need for additional research.

Methods
The purpose of this study was to determine predictors of future space travelers using a quantitative (non-experimental) methodology based on a correlational approach. Data was collected using an online questionnaire.

The study comprised 409 individuals (136 female) with a mean age of 32.25 (SD = 10.47). Participants were recruited through Amazon’s Mechanical Turk* (MTurk), an online platform for conducting human intelligence tasks in exchange for compensation. Additional predictors included country of residence, age, education, income, and participation in high adventure activities.

A Cronbach’s Alpha was performed on all four scales with internal consistency values ranging from .895 to .936 indicating a high level of internal consistency. Guttman split-half coefficients ranged from .823 to .920 indicating a high level of reliability.

A multiple regression was run to predict willingness to fly in commercial spacecraft using the backward stepwise method. The initial model included the following predictors: country of residence, familiarity, fun factor, wariness of new technology, gender, age, education, income, and high adventure activity participation. The gap in understanding of attitudes and actions. The study comprises 409 individuals (136 female) with a mean age of 32.25 (SD = 10.47). Participants were recruited through Amazon’s Mechanical Turk* (MTurk), an online platform for conducting human intelligence tasks in exchange for compensation. Additional predictors included country of residence, age, education, income, and participation in high adventure activities.

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Results
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Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>p</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.182</td>
<td>0.051</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Fun Factor</td>
<td>0.709</td>
<td>0.037</td>
<td>.667</td>
<td></td>
</tr>
<tr>
<td>Country of Residence</td>
<td>0.426</td>
<td>0.069</td>
<td>.230</td>
<td></td>
</tr>
<tr>
<td>Familiarity</td>
<td>0.068</td>
<td>0.038</td>
<td>.074</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .001; B = unstandardized regression coefficient; SEB = Standard error of the coefficient; β = standardized coefficient. Cutoff value, p < .10

Discussion
Initial predictors included country of residence, familiarity, fun factor, wariness of new technology, gender, age, education, income, and high adventure activity participation. The most parsimonious model included fun factor, country of residence, and familiarity. As a prediction tool, the model suggests companies should focus on promoting aspects related to fun and familiarity to build the pool of participants willing to fly.

A limitation in the study is the difference between attitudes and actions. The gap in understanding of who would actually expend funds to travel still remains unexplored. Future studies could examine issues of trust in technology as commercial space vehicles are as yet unproven. Studies using participants from other countries could yield valuable comparisons.

Can willingness to ride be predicted?

References