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SMALL UAS BUSINESS SENTIMENT ON FAA RULES: SURVEY RESULTS

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Abstract

This paper presents selected results from a survey study performed in April 2014 on business sentiment on FAA rules for the commercial activity of small unmanned aerial systems (sUAS) in the U.S. The study Impact of FAA Rules on sUAS Business examined the effect of FAA policies for operating sUAS in Class G uncontrolled airspace. It evaluated how commercial service providers and operators perceive those rules and assess their importance. The research investigated the potential economic impact of future regulations - including revenue growth forecasts and hiring plans. Participants identified themselves as either current or future providers of commercial activity. They identify the types of FAA regulations that would be both favorable and unfavorable for their current or future business activates, and identify the actions and business outcomes under both conditions.

Introduction

The research study Impact of FAA Rules on sUAS Business looks at the micro-economic impact of FAA rules on small unmanned aerial systems (sUAS) from the perspective of the business owner. We undertook this study to 1) evaluate how commercial service providers and operators perceive current Federal Aviation Administration (FAA) rules for sUAS, 2) determine the micro-economic issues, and 3) assess their importance for future regulations.

Study Demographics

Data collected for this study comes from a survey conducted over the web in March and April 2014. Survey participation was solicited via e-mail invitation, website blog posts, website media article invitations, and online forum posts. A total of 334 web users clicked through to the survey. Of those, 297 answered the qualifying questions and completed the survey. Qualifiers were identified as those who "sell or operate, and intend to sell or operate, sUAS in the U.S. for commercial purposes." Most qualifiers identified themselves as either a principal or employee. These validated respondents represent companies whose annual revenues span from US$100,000 to more than US$10 million. The online survey defined 'commercial service' to mean getting paid for the product or service and 'operate' as flying in uncontrolled Class G airspace. It defined 'sUAS' as remote-control or autonomous unmanned aerial system that weighs fewer than 55 pounds. The survey followed statistical research sample-size best practices with the following results for a worst case percentage (50%) answer against a population of 2,000: Confidence Level 95% and confidence Interval 5.25. The online survey tool reported no sampling bias.

Survey participants were required to identify their primary commercial service offering (Figure 1). Clearly, dominant (41%) service offerings include aerial photography and/or video combined with cinematography / movie/ TV. This combination is logical since aerial photography and video platforms are mostly the same and vary mainly in size and camera-carrying capacity. Sales of sUAS aircraft and technology represents the next largest service offering, at 11%. About eight percent of participants identified themselves as offering agriculture / farming services and another five percent identified their services as mapping / topography / geospatial / photogrammetry.

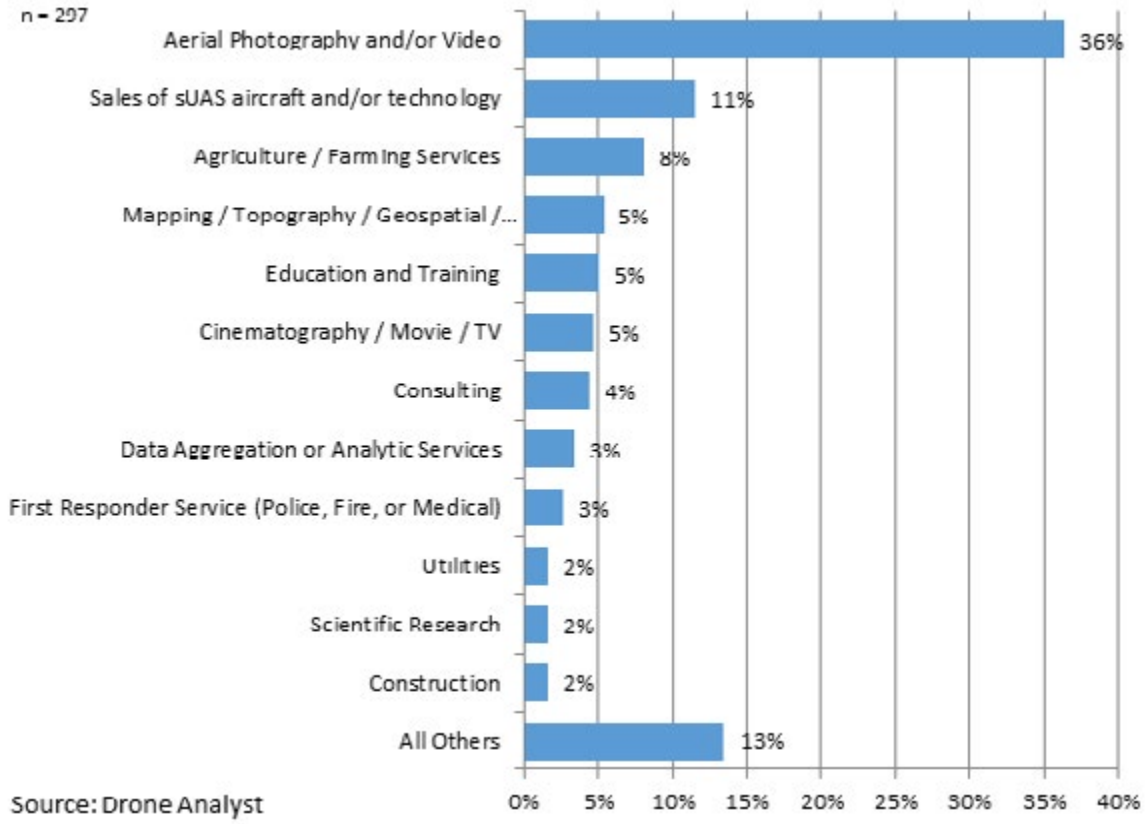

Figure 1. Primary Service or Product

Readiness to Offer Services

When asked about operating and offering commercial services in the U.S., almost half of all respondents (47%) said their company has been doing so already. Of those, almost two-thirds (64%) have been doing so for two or more years, and 34% for more than five years.

We note that two-thirds of those who sell sUAS aircraft and/or technology already do business, and it's this group that has been doing so the longest—with 30% in service for five or more years.

Those who have not begun service were asked when they would like to begin service in the U.S. Almost two-thirds of respondents (64%) said they are ready to begin within the next year.

Revenue from U.S. Operations

We wanted to know company's revenue last year from sUAS commercial services in the U.S. for those who are operating in the U.S. While most (63%) reported revenue last year as less than $100,000, 13% indicated revenue of more than $1,000,000. When viewed through the lens of each service provider type, the data offers some interesting news. For example, last year's revenue from the largest group of service providers—those offering aerial photography and cinematography—is spread across a wide range (from zero to over $1 million). In fact, three respondents reported revenue over $10 million, a figure no other group reported. This indicates revenue is not small and in some cases is in fact quite large.

Comprehension of Current FAA Policies

We asked respondents a direct question about their clarity of FAA regulations for the use and operations of sUAS for commercial purposes. The fact that a combined 71% say it's unclear demonstrates how bad the current regulatory environment is. We went further and asked respondents to identify conditions under which they think it is currently legal to operate sUAS for commercial purposes in the U.S. We offered 12 possible conditions, and respondents could pick as many as they thought applied (Figure 2).

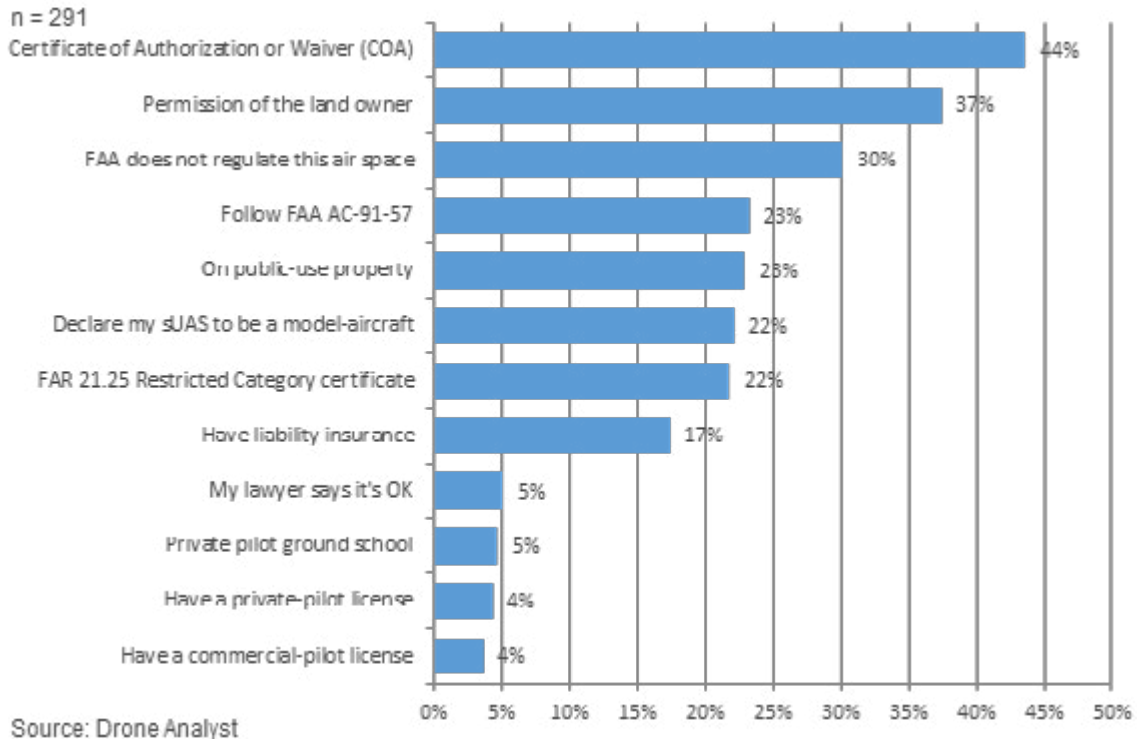

Figure 2. Comprehension of FAA Policies

Responses varied widely, with 44% picking Certificate of Authorization or Waiver (COA) as at least one condition. Permission of the land owner came in second, with 37% of respondents choosing that as condition of legal commercial operation. However, in contrast to these, the third most-checked condition was simply that the FAA does not regulate this air space. The surprising finding with this third answer is that it indicates nearly one-third of surveyed operators think no FAA rules apply to their commercial operations at all.

Business Growth under Favorable Regulations

We wanted to explore what regulations respondents think (as many as apply) the FAA should put in place for commercial sUAS to operate in Class G airspace. The results are shown in Figure 3.

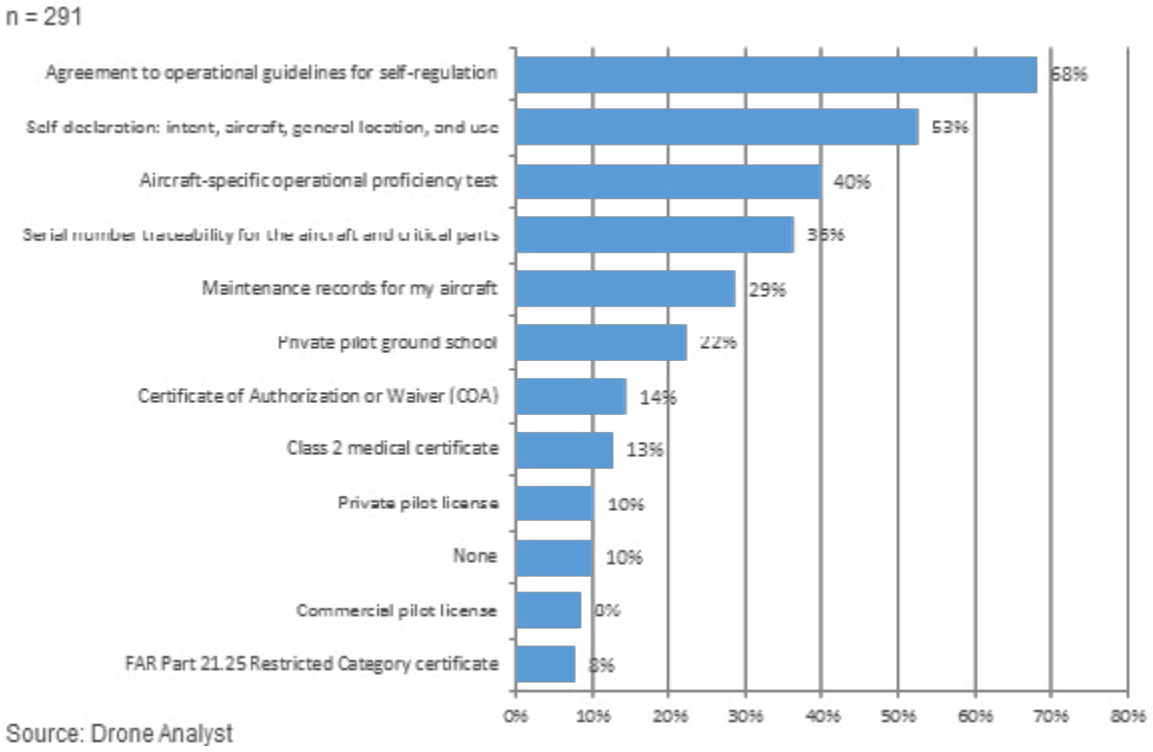

Figure 3. Favorable FAA Regulations

Only 10% said none. The majority (greater than 50% of respondents) picked these two:

1. Agreement to operational guidelines for self-regulation
2. A self-declaration of intent, aircraft, general location, and use

The largest minority (those less than 50%) picked:

1. Aircraft-specific operational proficiency test
2. Serial number traceability for the aircraft and critical parts

In the next series of questions, we wanted to understand the micro-economic implications of the immediate introduction of favorable regulations. To assess commercial readiness, we asked when respondents would begin operations if favorable sUAS regulations were published now. Filtering out those who already have operations in the U.S., we see that almost two-thirds (62%) would start immediately and another 24% within one year. We concluded in the study that 86% or 135 respondents that are not currently operating are being held back by the current policy environment and these respondents can start offering services almost immediately should favorable regulations exist. This fact is underscored by the results of the next question, where we asked about hiring tendency if favorable FAA regulations were published now. This data shows that 42% of respondents would hire two or more full-time employees (FTE) in the next year.

Regulations Considered Unfavorable for Business

In contrast to the questions we asked about favorable regulations and their implications, we wanted to find what respondents thought about unfavorable regulations. We also wanted to know their business impact. We asked respondents to tell us what type of FAA regulations on sUAS commercial operations would be unfavorable for their business using the same options that appear in Figure 3. The majority of respondents picked five unfavorable regulations. These are:

1. Commercial pilot license
2. Private pilot license
3. A Certificate of Authorization or Waiver (COA)
4. A Part 21.25 Restricted Category certificate
5. Class 2 medical certificate

We went on to determine the likelihood of respondents either discontinuing or not starting services if those unfavorable FAA regulations were in place. The results show that 61% would likely not start or shutter their existing business operations. In light of the finding above, which indicates 86% of businesses are being held back by the current rules environment, the study concluded the overall market growth for sUAS would be severely inhibited if unfavorable FAA regulations come into being.