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Pilot Supply at the Regional Airlines: Airline Response to the Changing Environment and the Impact on Pilot Hiring

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Introduction

Regional airlines facing pilot hiring challenges have responded by increasing pay and making changes within the work environment. The purpose of this research is to examine the changes made to attract pilots and the impact of those changes on hiring in order to explore the current environment of airline hiring at the largest regional airlines. Pay has been a central focus in the debate over pilot supply issues facing the industry. One argument, led by the Air Line Pilots Association, International (ALPA), is that the problem is not a shortage of qualified pilots but a shortage of adequate pay for pilot positions at regional airlines. While pay has been a central issue, research shows that lifestyle concerns and a career path to the major airlines are also top concerns for aspiring pilots (Lutte & Lovelace, 2016).

Given the supply and demand of qualified pilots, regional airlines have upped their game in base salary and in bonuses, raising the first year pay at many carriers (Tulis, 2017). Airlines have also taken steps to address lifestyle and career path concerns. Prior research examined pilot supply by exploring the issue from the perspective of those aspiring pilots in the pipeline. By conducting in-depth interviews of pilot recruiting personnel at the largest regional airlines, this research explores the topic from the perspective of the carriers most directly impacted by the airline pilot supply challenges. The results provide new insights into the regional airline response to the changing environment in which the industry operates.

Pilot Supply

Multiple forecasts exist to show increasing demand for pilots worldwide. Forecasts vary in the estimates of the number of pilots needed annually in the U.S., ranging from 1,900 to 5,200 (Canoll, 2017). The variation is a result of researchers' assumptions about future demand (Government Accountability Office [GAO], 2014) and, while helpful in indicating the overall

trends in the number of pilots needed, one should use caution relying on a single forecast. Multiple forecasts and reports reveal an era of record load factors (Boeing, 2016; Federal Aviation Administration [FAA], 2016). The often cited Boeing forecast (2016) projects a demand for over 39,000 new airplanes needed worldwide over the next twenty years (Boeing, 2016). The result is an estimated demand for 617,000 pilots worldwide with 104,000 needed in North America (Boeing, 2016).

The recent FAA report and forecast documents the increased growth in the industry and growing concern over pilot supply in the U.S. The report noted record profits for U.S. carriers in 2015 of 24.1 billion (FAA, 2016). In a market where four carriers (UA, AA, DL, SW) control 70% of the U.S. domestic market (FAA, 2016), it was noted that a result is increased contract competition for the regional carriers fighting to feed the routes of the biggest players. In their most recent forecast, the FAA acknowledged that "regional airlines are facing large pilot shortages" (FAA, 2016, p. 11).

Regional airlines are defined by the Regional Airline Association (RAA) as U.S. certificate holders providing scheduled passenger service under 14 CFR Parts 135 or 121 with aircraft capacities of fewer than 100 seats (Regional Airline Association [RAA], 2016b). Regional carriers play a critical role in the U.S. air transport system. Not only do regional airlines provide service to a wide range of airports across the country, but they also provide vital connection service for passengers connecting to larger carriers through hub cities. Regional airlines operate approximately 44% of all U.S. flights, serve over 600 airports, and operate the exclusive airline service to 64% of those airports served (RAA, 2016b). While the number of regional airlines has declined in the last ten years from 71 to 64, and declines have occurred in total number of departures and fleet flying hours, the industry has experienced an increase in

average trip length and average load factor (RAA, 2016b). As a result of a 2013 regulatory change, to qualify as an airline first officer, the pilot must hold an Airline Transport Pilot (ATP) or Restricted Airline Transport Pilot (R-ATP) certificate. This regulation change (FAR 121.436) resulted from the passage of Public Law 111-216, a response to the Colgan Air 3407 crash. The rule is sometimes referred to as the FOQ (First Officer Qualification) rule or 1,500-hour rule due to the requirements of 1,500 total fight hours for an unrestricted ATP. A R-ATP allows the pilot to be eligible for hire with less than 1,500 hours due to credit given for military experience or completion of approved collegiate programs (FAA, 2013). Prior to the rule change, airline first officer pilots were eligible to fly for a regional airline with achievement of a commercial pilot certificate that required 250 total flight hours.

The regional airlines have been reporting difficulty in meeting hiring needs for the last several years. For example, in the 2012 RAA Annual Report, then RAA President Roger Cohen refers to recruiting challenges and a "looming pilot shortage" (RAA, 2012, p. 10). By 2014, RAA Chairman Holt (RAA, 2014) acknowledges the industry had reached "a tipping point" (p. 1) in regard to the pilot shortage and the report described 2014 as a "game changing year" (p. 10) when regional airlines were hit hard with the reality of the pilot shortage. That same year, several sources reported on the low, or as ALPA described it, rock bottom pay of the regional airlines (Figure 1). Addressing the pilot shortage has been a dominant theme at RAA conferences and meetings. By 2015, one airline chief pilot described the pilot shortage as "drastic and quicker than we thought" (L. Haugaard, personal communication, April 29, 2016). At the RAA annual conference that same year, the RAA president noted "Now we are definitely in the middle of a pilot supply crisis" (RAA, 2015, p. 16).

Latest Salary Survey Shows Rock-Bottom Pay among Regional Airlines.

10 Lowest-Paying Airlines Estimated First-Year Salary as of July 20, 2014	
Great Lakes	\$14,616
Silver Airways	\$18,693
SkyWest Airlines	\$20,064
Mesa Airlines	\$20,183
GoJet Airlines	\$20,504
Republic/Shuttle/Chautauqua	\$20,655
ExpressJet Airlines	\$20,745
Atlantic Southeast Airlines	\$20,907
Trans States Airlines	\$21,531
PSA Airlines	\$21,600

Figure 1. 2014 Rock bottom pay among regional airlines (Air Line Pilots Association, International [ALPA], 2014).

ALPA and RAA have taken very different views to the pilot shortage debate. As noted, ALPA takes the position that the number of pilots available is sufficient and that the true problem is a pilot pay shortage that hinders airlines' ability to attract pilots. The number of ATP pilots in the U.S. lends some support for this argument, given that in 2016 there were a reported 126,070 ATP pilots in the 20 – 59 age group (FAA, 2017) and an estimated 85,000 airline pilots in the U.S. (RAA, 2016a). According to a Department of Transportation Inspector General review, between July 15, 2013 and September 15, 2016, a total of 28,133 ATPs were issued (Scovel, 2017). The regional airline industry employs approximately 18,000 pilots (RAA, 2016a). However, the RAA argues that 26% of ATP pilots are ineligible for hire for a variety of factors, including age, piloting ability, check ride failures, and criminal records (RAA, 2016a).

In the years since RAA identified reaching the tipping point in the pilot shortage and ALPA published the list of rock bottom pay among airlines, pay has increased at many regional carriers. RAA reports that average first year, first officer total compensation at RAA member airlines is \$46,707 (RAA, 2016a). In this supply and demand environment, some airlines on the

2014 ALPA rock bottom pay list are now providing first year pay (salary and bonuses) as high as \$60,000.

Review of Previous Research

Concern over the impact of airline pay and pilot lifestyle on the desirability of the airline pilot profession is a timely and timeless topic. In an article written in the early days of collegiate aviation programs, it was noted that even though airline flying was the initial draw for collegiate aviation students, many change course to other flight occupations due to lifestyle concerns of the airline pilot profession (Roberts, 1968). Dooley (1994) reported on the pilot shortage of the late 80s and in his research described the shortage as a mirage but the perception of the pilot shortage resulted in pressure to increase pay to remain competitive in hiring. The claim of a mirage was countered by Fraher (2015) who reported on aggressive aviation industry expansion that led to employee shortages in the 1980s and 1990s which "exhausted the available labor supply" in the airline industry (p. 118). Fraher reported that nearly 30,000 commercial pilots were hired between 1985 and 1988 (Fraher, 2015). In 2008, it was argued that the root cause of the pilot supply challenges, which forced some regional carriers to reduce minimum hiring experience requirements during that era, was inadequate starting pilot pay and benefits, an argument based on \$24,000 a year starting salary at regional airlines (Orkin, 2008).

Several, more recent, studies provide a more current view of the pilot shortage issue. Multiple studies examined the impact of issues, such as pay and regulatory changes on pilot supply. The research revealed that, among those in the pipeline, career aspirations of becoming an airline pilot were diminishing (Bjerke & Malott, 2011; Lutte & Lovelace, 2016). A contributing factor to this change included changes in pilot qualifications due to Public Law 111-216, which impacted the career choices of collegiate aviation students (Bjerke & Malott, 2011;

Higgins et al., 2014; Lutte & Lovelace, 2016). Results also showed that students in the collegiate aviation pipeline had a very negative perception of the regional airline industry and pay was a primary concern, followed by lifestyle and career progression to the major carriers (Lutte & Lovelace, 2016). Lifestyle concerns were defined as location of bases, schedules, and treatment as a valuable employee (Lutte & Lovelace, 2016). An additional study by Byrnes (2015) explored just how much pay it would take to entice qualified pilots to enter the regional airline industry. At the time of his research, entry-level pay was often in the mid \$20,000 range. Results showed that only about a third of qualified pilots pursued a career as an airline pilot, with insufficient pay as the primary deterrent, followed by concerns over lifestyle (Byrnes, 2015). The results of the study showed that motivation to become an airline pilot increased as entry level pay increased and "a starting salary of the \$40,000 to \$45,000 range would virtually double the current regional pilot workforce" (Byrnes, 2015, p. 12). At a starting salary of \$60,000, 55% of respondents stated they would seek employment at the airlines (Byrnes, 2015). Byrnes (2015) concluded, "data suggests that an increase in pay will help mitigate the current pilot shortage" (p. 15).

Research Questions

This research seeks to explore how the regional airlines have responded to the changing environment and the impact of that response on hiring. Previous work has documented that prospective pilots to the industry are concerned or even deterred by negative perceptions of pay and lifestyle. The purpose of this research is to explore what actions the regional airlines have adopted to address these concerns and to identify the impact of those actions on the airlines' ability to meet hiring demands.

1) What is the current status of pilot hiring at U.S. regional airlines?

- 2) What actions are regional airlines taking to address the pilot supply challenges?
- 3) How has the increase in pilot entry-level pay at regional airlines impacted the airlines' ability to meet hiring demands?

Methodology

The study was conducted as a qualitative case study of regional airlines in the U.S. The primary tool used was a semi-structured interview targeted to a sample of personnel in pilot recruiting at airlines. Such purposeful sampling results in subjects who are knowledgeable about the problem to be reviewed (Creswell, 2013). This approach is appropriate as it allows for getting perspective and direct input from those subjects on the front lines of hiring who are most familiar with the subject area.

One subject was identified from each of the ten largest regional airlines based on enplanements as reported in the RAA 2016 annual report (RAA, 2016b). The top ten regional airlines were selected as they represent approximately 90% of the total 2015 regional airline enplanements (RAA, 2016b). A list of hiring/recruiting personnel, at each of the airlines, was developed. Subjects were identified by either calling the airline directly or through contact information for pilot recruiting personnel identified on the company web site. An email was sent to each contact, which included a general statement of the purpose of the research, request for a brief, recorded telephone interview, and notification that the responses would be anonymous and the subject would have the opportunity to review the transcripts of the recording for accuracy. Following the request, eight of the ten airlines agreed to participate. The resulting response rate was 80%. The rate of 80% is considered to be a satisfactory rate for "a properly designed and executed interview" (Babbie, 1999, p. 242).

The interview questions were developed based on the review of literature. A semi-structured interview allowed for both specific and probing questions (Flick, 2015). An interview guide was used to ensure the same questions were asked of each participant and was developed to explore the themes in the literature. Questions targeted several specific areas: current ability to meet hiring needs, impact of increased pay on hiring, and changes, other than pay, enacted to attract pilots. Question types included closed, fixed response questions, and open-ended questions. The fixed response questions allowed the researcher the ability to cover more topics in a shorter time frame and allowed for direct comparison of responses (Patton, 2015). Open-ended questions allowed for further in-depth coverage of topics.

To enhance validity, the interview guide was reviewed using two different methods. A tenured, academic researcher, with significant experience in qualitative methods and in-depth knowledge of the subject matter, critically examined the initial draft of the interview questions. Additionally, the interview guide was pretested using an identified interview participant. Allowing participants to assist the researcher in developing research questions was completed as an additional means to enhance validity (Golafshani, 2003). Such reviews also assist in identifying potential researcher bias that my influence question development.

A telephone interview format was selected since the researcher does not have direct access due to the geographic dispersion of the targeted interviewees (Creswell, 2013). The interviews were recorded, a common practice in order to generate transcripts for analysis (Creswell, 2013; Patton, 2015; Seidman, 2013). To enhance validity of the analysis, the researcher used the services of a transcriptionist to transcribe the recorded interviews. The researcher then verified the transcriptions. As a final check, participants were provided the

transcripts to review for accuracy. Assigning numbers protected the subjects' anonymity (Creswell, 2013).

The data analysis process was completed with the use of NVivo computer software. Use of qualitative data analysis software is a growing practice (Earnhardt, Newcomer, Watkins, & Marion, 2014; Opengart & Ison, 2016; Seidman, 2013) and can be a useful tool for exploring and coding qualitative data (Creswell, 2014). The following steps for data analysis were conducted. To begin, the researcher reviewed all of the transcripts to gain a general understanding of the responses. Transcripts of open-ended questions were then initially analyzed using word queries features of NVivo to identify commonly used terms in responses. Based on the read through and word queries, responses were then coded into common themes using the NVivo nodes functions. Predetermined codes were identified for the fixed response questions.

Limitations

It should be noted that the researcher comes to this project as a former regional airline pilot, which results in experience in, and understanding of, the research topic but could also result in bias. The researcher was aware of this potential and used methods, such as the previously mentioned reviews of the interview schedule to counter any effects (Creswell, 2014). While the sample size of eight is admittedly small, the cases do represent a large percentage of regional airline operations and the methodology allows for in depth examination of their approaches to address the pilot supply challenges. When using interview techniques, limitations, such as varying perspectives from the interview subjects or varying abilities to effectively communicate perspectives, can limit data collection and impact validity (Creswell, 1994). Participants with significant knowledge of the topic were selected to address the former concern,

and opportunities to review transcribed interviews and provide clarification were used to address the latter concern.

Results

The interview questions were grouped into three general topics areas: current status of hiring at the airline, impact of first year pay on hiring, and general questions to gauge the participants' views on the current pilot hiring environment.

The initial questions focused on the ability to meet hiring goals and the impact of hiring on operations. In regards to meeting hiring goals, all but two airlines reported that they are currently meeting hiring targets for new first officers. The two airlines that reported not meeting hiring targets cited fleet growth and competition for pilots as the primary factors. It can also be reported that of those two carriers, one was at the lowest level of pay among all carriers and the carrier that cited competition for pilots as a key factor for not meeting goals was in the midrange of pay. Participants were asked whether the ability to meet hiring needs for first officers is a significant challenge, moderate challenge, or not a problem for the airline. Five of eight airlines responding described the ability to meet hiring needs as a *moderate* (2) to *significant* (3) challenge. Two reported that the ability to meet hiring needs was not a problem and one reported between moderate and not a problem. The carriers that reported they experienced significant challenge in meeting hiring needs were across the board in terms of salary, ranging from the lowest on the list, midrange, and one in the top tier of first year salary.

To further gauge the impact of pilot supply on operations, participants were asked about the impact of pilot staffing on markets. Only one airline reported that they have been forced to limit or cut service to markets due to lack of pilots. Participants were also asked if they had made changes other than pay that were designed to attract pilots. The most common response to

this question related to commuter policies. Five of the airlines mentioned that they are offering more flexible commuter policies so that pilots who choose not to live in their assigned base have an easier time commuting to the base to start the assigned trip. Two carriers mentioned establishing new crew bases to attract pilots in specific regions. Other incentives mentioned included revising reserve policies and making it easier for pilots to pick up extra trips for more pay.

The next set of questions included a focus on impact of salary on hiring. Respondents were asked to report the first year, first officer pay in terms of salary and bonuses/incentives. The reported first year pay ranged from \$40,000 to \$62,400 (Figure 2). Only one carrier reported that they do not offer bonuses/incentives. Of the remaining carriers, when asked how much of the first year, first officer pay is bonuses or incentives, the range was \$10,000 to \$30,000. Four carriers offer bonuses in the \$10,000 to \$16,000 range, and three carries offer bonuses between \$21,000 and \$30,000. Every airline, except for one, indicated that they did increase wages to attract pilot applicants. Five of those carriers stated that the increase significantly improved the carriers' ability to attract qualified first officer applicants (Figure 3). Two carriers reported the increase in wages resulted in a slight improvement to attracting first officers. Those carriers' salaries ranged from lowest on the list to top tier. One airline did not respond as they reported that at the time of the interview, they had been unable to increase pay. When asked if the increased ability to attract first officers due to increased pay has been enough of a change to address any previous hiring shortfalls, the results were again mixed. Three respondents stated yes; one said it contributed to but was part of a combination of factors; two reported no, and one stated that it was unknown.

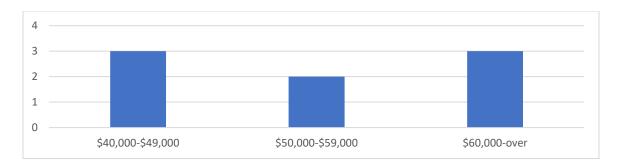


Figure 2. First year pay at largest regional airlines (salary & bonuses combined).

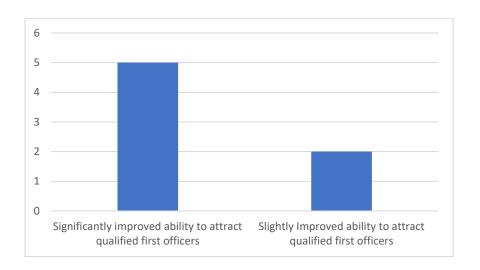


Figure 3. Impact of increased pay on hiring at largest regional airlines.

Respondents were asked a series of open-ended questions regarding pilot supply. The first question asked what is working well at the specific airline, to attract pilots. A word query for the responses was conducted in NVivo, and the most common words used are shown in the word cloud depicted in Figure 4. The key words and phrases used in the responses reflected key themes, such as pathway progression to major carriers, desirable location of bases, and pipeline programs to include primarily university pipeline programs but also rotor transition programs. Other topics raised included the type of aircraft flown, company culture, and some form of payment, such as stipends or tuition reimbursement programs to students in the pipeline.



Figure 4. Approaches that are working well to attract pilots.

As a follow up question, participants were asked to identify the biggest challenges to attracting pilots to the airline. The primary response, noted by half of the participants, was that there are simply not enough qualified pilots in the pool. The comments centered on the tough competition between regional carriers for the "best and brightest." Additional topics raised included the need to educate those coming into the industry, especially youth, about career opportunities. Other identified hindrances to attracting pilots were lack of desirable base location and lack of a career progression path to majors.

Respondents were asked the following question, what would you fix or change in the industry to enhance your airline's ability to attract pilots? Again, using a word query search, a word cloud was developed to reflect the top key words in the responses to this question as depicted in Figure 5. The primary topic area in this response was related to the required number of hours needed to qualify as a first officer. Numerous respondents (6 of 8) commented on the need to revise the 1,500 hour, FOQ rule. Another area that came up commonly was the need to educate youth in schools about the industry and career opportunities.



Figure 5. Desired industry changes to attract more pilots.

Discussion of Results

The key themes that emerged from the interviews are listed below and expanded upon in the discussion that follows.

Regional airline pilot pay has increased at large regional carriers, and that increased pay has positively impacted hiring. As noted, pay has increased from an average of \$22,400 as reported by ALPA in 2014 (ALPA, 2014) to an average of \$51,400 as reported by the respondents (including bonuses). It should be noted that in most cases, this first year pay is largely supported by bonuses to supplement the first year salary. Bonus and incentive payments for first year, first officers ranged from \$10,000 to \$30,000 according to the respondents. In some cases, bonuses/incentive pay represents 50% of first year pay. Most airlines admit that they did increase pay to attract pilots, and the majority note that the increased pay significantly impacted the ability to meet hiring goals. The majority of the airlines reported that they are currently meeting hiring needs. By comparison, the Government Accountability Office (GAO, 2014) report revealed that 11 of 12 regional airlines reported that they were not meeting hiring goals.

Regional airlines are generally meeting hiring needs but there is concern for sustainability of these hiring levels for the long term. Competition for pilots is fierce. While the regional airlines reported an enhanced ability to meet hiring goals due to increased pay, caution should be exercised to conclude that an increase in pay would result in a sustained solution to the pilot supply issues facing the regional airlines. As noted, other factors, such as lifestyle concerns and career progression to major carriers, remain an issue. Even with increased pay, regional carriers are still reporting that battling the pilot supply challenge remains a moderate to significant challenge. In addition, several airlines reported that the increased hiring and ability to meet current goals has not been enough to address previous shortcomings. A primary concern is the available pool of qualified pilots. Competition for pilots is fierce and everyone is fighting for the same pool of applicants. Regional airlines know that a qualified applicant will receive multiple requests for interviews as soon as that pilot submits his/her application. Respondents reported:

- "The biggest challenge literally is that there are no airline transport rated pilots sitting around who don't already have work.I just don't see a large pool of all the people who have ATPs, plus who are just waiting around for a job."
- "The biggest challenges are that there is such a limited number of qualified pilots."
- "The pilot really has their choice. We might offer it to someone and they will say they'll think about it. They've got one, two, three, four more interviews lined up."
- "I think the hardest part is that unfortunately there just aren't enough of the ones we want to see.....we're all competing for the same pool, and we all have very high standards and we're not just hiring everybody."

Regional carriers are very active in pilot recruiting. The airlines use a variety of programs including university pipeline programs, representation at career fairs and conferences, on-site open houses at flight training facilities, etc. Regional airlines are also actively recruiting military pilots with offers such as a rotor transition program for military helicopter pilots to transition to fixed wing flight. It is a pilots' market and a qualified pilot has many options to choose from. Several respondents noted that applicants should do their due diligence by exploring their options, getting informed, and making the best decisions about where to go.

airlines are competing regarding pay, they are also competing with additional factors in the battle to attract pilots. Additional factors reported include the location of bases, commuter policy, company culture, and guaranteed interviews or flow through to majors. One of the areas repeatedly reported was the importance of location of bases. It was noted that pilots of a younger generation are less interested in moving and are more likely to place a high emphasis on the location of bases. Other areas that have resulted in airlines developing policies to remain competitive include flexible commuter policy, company culture, type of aircraft flown, and having a pathway to the major airlines. There are two primary pathways to the majors that regional airlines offer, guaranteed interview or flow through. As the name implies, in the former, once regional airline pilots reach a set threshold and, assuming the major airline is hiring, the pilots are guaranteed an interview at the major airline with whom the regional airline has an agreement. A flow through results in regional pilots having the ability to flow directly to the major airline for employment, when conditions warrant, with no additional interview required.

Changes to the FOQ rule to become first officer qualified are highly desired by regional carriers. It is clear and no surprise that the regional airlines voiced a desire to revise first officer

qualifications. One respondent called for rolling back the first officer qualifications to the commercial pilot requirements instead of the new 1,500 FOQ rule. Others mentioned creating additional alternative pathways to meet the requirements. While rolling back the requirements to the days prior to Public Law 111-216 is highly unlikely due to the political uphill battle, creating an alternative pathway in addition to the current R-ATP options has become a topic of conversation in the media and on the hill through an amendment to the FAA Reauthorization Act of 2017, which would allow more flexibility to meet the 1,500 hour rule (Courtney, 2017). A concern raised, regarding the current FOQ rules, was the question of whether the rules are resulting in pilots who are better prepared for the airline environment. Many respondents noted that using the number of hours (instead of a competency based approach) resulted in increased training time and costs. As some respondents noted, the increase in training time and cost is needed to reverse bad habits acquired, or the diminishing of skills, that can occur when pilots are building time as flight instructors. Some of the respondents' comments on this topic are listed below.

- "They're flying without any supervision. They're the ones doing the teaching. And they're the ones that are developing the bad habits. And then when they get to the 121 carriers, the regionals, any of them, you have to break those bad habits. So now you have 700 or 800 hours of bad habits you have to break before you can even get them up and going."
- "We are seeing that once people reach the required hours, there are habits that are harder to break for them. We've actually seen this impact people going through our training program. And that we've seen people be less successful since the hourly requirement

has been put into place, the 1,500 hour requirement. Not being able to pass through training within our original footprint."

More needs to be done to attract young people to pursue professional flight as a career. Respondents were clear in the need to educate youth about airline pilot career opportunities. The ability to continue to feed the pipeline will be critical to a future pilot supply. As one participant described, "I think the biggest challenge is trying to generate interest in the younger generation to get into the business." It was noted that the profession seems to lack the level of desirability it had in the past.

Conclusions

It is clear that regional airlines have responded to the market. Given the struggle to hire adequate numbers of new first officers, airlines had little choice but to increase pay to remain competitive. Previous research shows that prospective pilots had serious concerns about low starting pay, lifestyle, and pathways to the major airlines (Lutte & Lovelace, 2016). This research shows that regional airlines have addressed these areas of concern.

Results indicate that increased pay has a positive impact on the ability to meet hiring needs. Regional airlines are increasing pay to attract new pilots, and that tactic is working. One could argue that the results support the ALPA argument that the pilot shortage issue is a pilot pay issue. However, it's still early in this new environment, and while increased pay may appear to be a fix in the short term, there is still concern over the ability to sustain these hiring levels, primarily due to the competition among carriers over the pool of qualified and available ATP pilots. Regional airlines must continue to find the right balance between pay, lifestyle factors, and career progression options to attract pilots. The industry must continue to strive to further develop the workforce to provide a sustained and adequate level of qualified and available pilots.

References

- Air Line Pilots Association, International (ALPA). (2014). Latest salary survey shows rock bottom pay among regional airlines. Washington, DC: ALPA.
- Babbie, E. (1999). *The basics of social research*. Belmont, CA: Wadsworth Publishing Company.
- Bjerke, E., & Malott, D. (2011). Impacts of Public Law 111- 216: Will the flight instructor career path remain a viable option for aspiring airline pilots? *Collegiate Aviation Review*, 29(1), 1-9.
- Boeing. (2016). *Current market outlook: 2016 2035*. Retrieved from http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/assets/downloads/cmo_print_2016_final_v6.pdf
- Byrnes, K. (2015, June). *ATP motivation*. Paper presented at the ALPA Airline Pilot Shortage? Myths, Facts, and Solutions Conference, Washington, DC.
- Canoll, T. (2017, May 11). Letter to Secretary Chao, United States Department of

 Transportation. Retrieved from http://www.alpa.org/~/media/ALPA/Files/pdfs/newsevents/letters/042017-eas-chao-letter.pdf
- Courtney, S. (2017). *Pilot training, supply dispute spills into senate authorization bill*. Retrieved from https://www.bna.com/pilot-training-supply-n73014461255
- Creswell, J. (1994). Research design: Qualitative & quantitative approaches. Thousand Oaks, CA: Sage.
- Creswell, J. (2013). Qualitative inquiry & research design: Choosing among five approaches (3rd ed.). Thousand Oaks, CA: Sage.

- Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Dooley, F. (1994). Deja vu for airline industrial relations. *Journal of Labor Research*, 15(2), 169-190. https://doi.org/10.1007/BF02685728
- Earnhardt, M., Newcomer, J., Watkins, D., & Marion, J. (2014). An inquiry into the aviation management education paradigm shift. *International Journal of Aviation, Aeronautics, and Aerospace*, 1(4). https://doi.org/10.15394/ijaaa.2014.1037
- Federal Aviation Administration (FAA). (2013). Institution of higher education's application for authority to certify its graduates for an airline transport pilot certificate with reduced aeronautical experience (Advisory Circular No. 61-139). Retrieved from https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.info rmation/documentID/1021129
- Federal Aviation Administration (FAA). (2016). FAA aerospace forecast: Fiscal years 2016-2036. Retrieved from

 https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2016-36_FAA_Aerospace_Forecast.pdf
- Federal Aviation Administration (FAA). (2017). *U.S. civil airmen statistics*. Retrieved from https://www.faa.gov/data_research/aviation_data_statistics/civil_airmen_statistics/
- Flick, U. (2015). An introduction to qualitative research (5th ed.). Thousand Oaks, CA: Sage.
- Fraher, A. L. (2015). Technology-push, market-demand and the missing safety-pull: A case study of American Airlines Flight 587. *New Technology, Work and Employment, 30*(2), 109-127. https://doi.org/10.1111/ntwe.12050

- Government Accountability Office (GAO). (2014). Aviation workforce: Current and future availability of airline pilots. (GAO-14-232). Washington, DC: U.S. Government Printing Office.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-607.
- Higgins, J., Lovelace, K., Bjerke, E., Lounsberry, N., Lutte, R., Friedenzohn, D., . . . Craig, P. (2014). An investigation of the United States airline pilot labour supply. *Journal of Air Transport Studies*, 5(2), 53-83.
- Lutte, R., & Lovelace, K. (2016). Airline pilot supply in the U.S.: Factors influencing the collegiate pilot pipeline. *Journal of Aviation Technology and Engineering*, *6*(1), 53-63. https://doi.org/10.7771/2159-6670.1148
- Opengart, R., & Ison, D. (2016). A strategy for alleviating aviation shortages through the recruitment of women. *International Journal of Aviation Management*, *3*(2), 200-219. https://doi.org/10.1504/IJAM.2016.079953
- Orkin, J. (2008). Fair treatment for experienced pilots act all good things really do come to an end! *Journal of Air Law and Commerce*, 73, 579-610.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.
- Regional Airline Association (RAA). (2012). Regional Airline Association 2012 annual report.

 Retrieved from http://www.raa.org/?page=Publications
- Regional Airline Association (RAA). (2014). Regional Airline Association 2014 annual report.

 Retrieved from http://www.raa.org/?page=Publications

- Regional Airline Association (RAA). (2015). Presidents remember and reflect on RAA's 40th anniversary. *Regional horizons*, 72. Retrieved from http://c.ymcdn.com/sites/www.raa.org/resource/resmgr/2015Pubs/RHDay2_2015_FNL2-2.pdf
- Regional Airline Association (RAA). (2016a). *Pilot workforce and training update: Issue briefing*. Retrieved from http://c.ymcdn.com/sites/www.raa.org/resource/resmgr/2016docs/RAA_pilot_workforce_update_O.pdf
- Regional Airline Association (RAA). (2016b). *Regional Airline Association 2016 annual report*.

 Retrieved from http://www.raa.org/?page=Publications
- Roberts, D. Y. (1968). To educate pilots. American Association of Junior Colleges, 39(4), 52-54.
- Scovel, C. (2017, March 2). Office of Inpsector General Letter to Committee on Transportation and Infrastructure. Retrieved from https://www.oig.dot.gov/sites/default/files/Regional Airlines Pilot Pay% 5E3-2-17.pdf
- Seidman, I. (2013). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (4th ed.). New York, NY: Teachers College Press.
- Tulis, D. (2017). Enrollment up at many aviation colleges. Retrieved from https://www.aopa.org/news-and-media/all-news/2017/december/11/enrollment-up-at-many-aviation-colleges?utm_source=Social%20Media&utm_medium=Twitter&utm_campaign=enrollm ent-up-at-many-aviation-colleges&utm_content=News%20Article