AMERICAN UNIVERSITY OF BEIRUT

MIDDLE EAST AIRLINES: FILLING THE TRAINING GAP

by
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I would also like to thank all the of the professors MHRM program for making this program a life changing experience during which I met people I would have never met otherwise!

To my family, and as mentioned in William Shakespeare's play, Twelfth Night: "I can no other answer make but thanks, and thanks, and ever thanks."

AN ABSTRACT OF THE PROJECT OF

Rawan Ahmad Ghazzawi for Master of Human Resources Management
Major: Human Resources Management

Title:Middle East Airlines: Filling the Training Gap.

The field project starts with a case that first presents Middle East Airlines that was able to regain its strengths and position in the market after both of them were in extreme jeopardy. Starting with a description of how MEA's losses that forecasted its near downfall and moving to its successful recovery through the new chairperson's vision, the case portrays MEA as a survivor that is seeking more success.

The case moves on to describe MEA's important aim of maintaining its high standards of safety and its concern with planning its next training initiatives. The strategic value of training and the proper execution of its early stages is then introduced, before ending the case with the aviation's industry safety matters and some considerations about human-automation interaction.

The aim of the case is to give graduate and under-graduate level students the chance to apply their knowledge about training needs analysis - a fundamental stage in the process of developing training modules- in order to make them more effective at designing tailored training programs. Moreover, students will be exposed to various evidence-based decisions that revolve around choosing a training topic and developing a program that targets it.

As for the attached teaching notes, they provide instructors with suggested ways to approach the questions of the case that can assist them in delivering the material with an optimal learning experience.

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To

My Beloved Family

CHAPTER I

MOTIVATION BEHIND PREPARING THE CASE

The number students pursuing graduate studies is projected to increase over the coming year , and holding a graduate degree is becoming a minimum requirement for various academic and corporate positions (Rovaris,2006, 10). The primary role of graduate education is to prepare students for the corporate world, but one can't ignore the employer's dissatisfaction with the qualities of the graduate students they recruit (Hesketh, 2000).Despite that, current employers are now recruiting graduate students just because they can (James, Warhurst, Tholen, & Commander, 2013)while fostering occupational hybridity (Holmes & Mayhew, 2012) and facilitating interaction between graduates and non-graduates. Some evidence supports the idea that there is a 'competency gap' between the skills that graduate degrees are offering their students and those that are requested by employers that include decision making, time management, communication and many more (Nair, Patil,& Mertova, 2009).. Having mentioned that, professional degrees that teach students skills that are deemed valuable by employers are gaining popularity.

TheMaster of Human Resources (MHRM) program at the American University of Beirut (AUB)is one of the programs that is tailored for the needs of the industry and that provides students with up-to-date information concerning the status of Human Resource Management (HRM) globally and in the Middle East specifically. Being anAACSB accredited program, the MHRM aims to give students thorough experience in various aspects of the HRM, by providing them with examples and cases that highlight actual challenges from the professional world. As part of the MHRH degree,

students are expected to complete field projects,which give them an amazing chance to unleash the skills they have acquired and create their own work. While developing their field projects, they would apply and amalgamate all what they have learnt throughout the 18 months they have spent at AUB.

The aim of this field project is to develop a teaching case study thatwouldallow students to learn about HR challenges in the Middle East while providing them with the opportunity to practice a core HRM skill namely, designing tailored training programs.Preparing such an educational case that teaches best practices in HR will serve as an essential tool thatprovidesstudents with a well-rounded view about the field.

The case handles the topic of training and development and highlights the importance of its early phases, specifically, the training needs assessment. The topic of training and development is a very dynamic one through which organizations can strengthen their employees skills and abilities and consequently their own.

In order to maximize the learning, my ultimate aim isto get the case readers to realize the importance and the criticality of the events being described(i.e. an airline deciding how it should go about developing a training program to maintain high levels of safety) and to engage with the company on this journey.

When choosing between airlines as travelers, safety is our bottom line and an educational case describing an airline's initiatives to ensure safety will make the reader personally relate to the issue at hand. Being an employee at Middle East Airlines (MEA), I wanted to choose a way in which I can give back to the organization that appreciated my need for continuous education. It was a win-win situation for MEA and me. Throughdeveloping the case, MEA would have its best practices available on international sources for educational institutions to use them as instructional material.

The case introduces a new topic that hasn't had enough attention over the past

years, which is "monitoring" during flights. As one of the pilots mentioned during the interviews, "the absence of active monitoring or its abundance might have negative effect on the pilot's performance (…). The key is to identity the sufficient amount ofactive monitoring needed for conducting safe flights".

Finally, the case also provides students with the opportunity to go beyond the theoretical aspects of designing training programs by providing them with real life data to get them to practice implementing such theories.

CHAPTER II

THE TEACHING CASE: MIDDLE EAST AIRLINES: FILLING THE TRAINING GAP

Introduction

Captain Tarek Abboud – Flight Crew Training manager at Middle East Airlines (MEA) Lebanon attended aworkshop about flight safety in Orlando, Florida, and participatedin a group activity alongside other airline management specialists from around the world (CAA, 2013):

Speaker: *"I would kindly like you to read each of the passages on the paper in front of you silently. I will then ask you one question"*

The passages read as follows:

- *"Loss of Control is prioritized as the most important of the significant seven safety issues and the application of effective pilot monitoring is identified as a key safety net in the prevention of and recovery from Loss of Control accidents and incidents."*
- *"Loss of Control is prioritized as the most important of the significant seven safety issues and the application of effective pilot monitoring is identified as a key safety net in the prevention of and recovery from Loss of Control accidents and incidents. Monitoring is an essential ingredient in achieving synergy with highly automated and complex aircraft systems and effective crew co-ordination."*
- *"Loss of Control is prioritized as the most important of the significant seven safety issues and the application of effective pilot monitoring is identified as a key safety net in the prevention of and recovery from Loss of Control accidents and incidents. Monitoring is an essential ingredient in achieving synergy with highly automated and complex aircraft systems and effective crew co-ordination. Monitoring can be*

analogous to plate spinning – whilst all the plates are going round evenly a cursory tap keeps them on the stick."

- *"Loss of Control is prioritized as the most important of the significant seven safety issues and the application of effective pilot monitoring is identified as a key safety net in the prevention of and recovery from Loss of Control accidents and incidents. Monitoring is an essential ingredient in achieving synergy with highly automated and complex aircraft systems and effective crew co-ordination. Monitoring can be analogous to plate spinning – whilst all the plates are going round evenly a cursory tap keeps them on the stick. However as soon as one starts to wobble and requires more attention than the rest you take your eye off the ball and before you know where you are others are wobbling too and eventually all are on the floor."*

After all the participants finished reading, the speaker asked:

> *"How many of you started to ignore the first few lines of each paragraph after reading the first two?"*

Admittedly, Capt. Tarek Abboud was one of participants who started to skip the first few lines of each paragraph assuming that they are not going to change.

The speaker then added:

> *"The Civil Aviation Authority claimed that since year 2000, there have been nine fatal accidents due to loss of control, taking away 1128 lives. Consequently, there has been a recent interest in the concept of active monitoring during flights, and several major airlines engaged in developing training programs that help pilots "actively and continuously monitor" aircraft systems during flights. It is very hard for people to stay visually focused on a source that provides fixed information for more than half an hour(Bainbridge, 1983). When it comes to automation in specific, its high reliability increased trust in it, and as long as it's flawless, this level of trust will increase which would affect the monitoring performance of pilots (Singh, Molloy, & Parasuraman, 1993). The combination of high reliability of automation, the subsequent high levels of trust in it, and our innate poor monitoring skills as human beings can be deadly. Just like you ignored the lines that weren't changing, pilots have the tendency to ignore constant information and fall into pitfalls."*

This information hit Capt. Abboud hard and validated his long standing beliefs. He always advocated against overreliance on automation because he truly believed thatautopilot would not be able to fully replace a human pilot. He consistently urged pilots to maintain and develop their technical skills so the knowledge stored in their long-term memory doesn't become obsolete. When he came back few days later to his office in Beirut, Lebanon, he was shocked to hear about Turkish Airlines' crash near Amsterdam that led to nine fatalities (ASN, 2014). The flight crew members, who ignored the automated warnings several times, were allegedly distracted and unable to properly take corrective action. Active monitoring immediately jumped back up his priority list. As the head of Training and Development department at MEA, Capt. Abboud was always keen on providing MEA pilots with the best trainings that can help them better manage current challenges in their work. It was time for him to formalize the process of active monitoring during all MEA flights.He realized that he was up against a big challenge: since the concept of active monitoring was relatively new, how should MEA develop the best training on active monitoring for MEA pilots? Where should we get the information needed about this topic to develop a training program around it? Capt. Abboud immediately called for a meeting with Capt. Aziz to discuss how best to go about this.

Middle East Airlines: Because We Believe in a Bright Tomorrow

Middle East Airlines (MEA), established in 1945 and the sole passenger carrier in Lebanonhad one of the most contemporary fleets in the world with a proud safety record and a constant effort to enhance the standards of its service. MEA became a proud member of the Sky Team Alliance in 2012which strengthened the Alliance's position in Middle East and provided MEA's passengers with even more privileges.By

the end of 2014, MEA's fleet was made up of 17 aircrafts that reached up to 31 destinations around Europe, the Middle East, and West Africa, and that catered for around 2 million passengers. In line with MEA' safety assurance concerns, MEA established a Safety Management System in year 2013 that integrated various aspects including safety policy, safety risk management, safety assurance, and safety promotion.

MEA's history portrayed the company's fair share of fluctuations in face of which it was able to gain this firm place in the market. MEA's relatively recent glory days came after huge losses that forecasted its near downfall.MEA survived Lebanon's most critical situations, from the Lebanese civil war that spanned over more than 15 years since 1975 (Krayem, 1997) to the more recent events that took place in July 2006 war between Hezbollah paramilitary and the State of Israel, and which involved the destruction of parts the runways of Lebanon's only commercial airport. Using different strategies, including relocating its operations from Beirut to Damascus, leasing its aircrafts, and allowing its flight crew members to work for other carriers, MEA tried its best to adapt to events that otherwise would have had detrimental consequences on its livelihood as an institution.

When the current chairperson, Mr. Mohammad El Hout, first joined MEA in 1998, he took over an airline with net loss of $87 million and an operating loss of $80 million (Executive Magazine, 2004). Soon after his appointment, Mr. El Hout set off to salvage MEA and focused on improving the utilization of its fleet as well as on developing better and more efficient products. Although Mr. El Hout resorted to laying off employees in the early days of restructuring the business, MEA reached a point where it employed 2400 employees whom he depended on heavily for achieving higher productivity rates. By 2012, 14 years after assuming his position, Mr Hout managed to

get MEA to reach a net profit of $57 million (Daily Star, 2015) thus granting it the chance to regain its position in the market. From 1998 till 2015 Mr. Mohammad El Hout never ceased to amaze the Lebanese and the international communities through his versatile business skills and ability to channel MEA's employees' efforts towards one key strategic goal: safe and profitable operations.

In his inspirational message, MEA's chairman addressed its current and potentialpassengers:

> *"This is MEA: Determination that strengthens in times of difficulty...And ambitions as expansive as the sky... As such, MEA continues to advance believing in a bright tomorrow, and remains worthy of your trust and loyalty as you are its family. MEA remains your companion to your destinations, always committed to provide the highest international safety standards"*(MEA, 2014).

Mr. El Hout added that safety is MEA's number one concern, which influences its choice of high quality and fidelity flight simulators for the purpose of its flight crew training programs. At MEA, safety has managed to find its way in even the micro-decisions that the leadership team makes on daily basis in order to ensure that it is deeply internalized and expressed in all of its operations.

Safety Management System: Beyond Industry Regulations

Safety climate of organizations has been a hot topic for academics and practitioners alike. Recently, there has been a shift from the use of "lagging indicators" of safety that depended on past information to more proactive measurements of "leading indicators" that focused on safety initiatives and audits (Flin, Mearns, O'Connor, & Bryden, 2000). Moreover, when we delved deeper into safety cultures and their significance, we found that these were highly influenced by the employees' perceptions of their organization's safety culture and their impression of the organization's safety

system. The International Civil Aviation Organization (ICAO) published a new Safety Management System (SMS) framework in 2010, which incorporated several safety pillars that airlines must take into consideration. MEA haddeveloped its own SMS that reflects thenever ending strategic effort to go beyond international standards in order to reaffirm its reliable reputation and image. Safety assurance and establishing a safety culture was clearly expressed throughout MEA's premises via posters and other visual material that incorporated safety in its strategy as a commercial airline. Moreover, training programs that introduced MEA's new SMS were delivered to pilots and co-pilots and highlighted their active roles in maintaining an environment characterized by safety.

Middle East Airlines' Training and Development Initiatives: The New Training Center

Training has always been a strategic effort to enhance levels of performance within organizations and reinforce their strategic values (Aguinis & Kraiger, 2009). On the individual level, successful training programs typically led to improved job performance and better work results; either through affecting skills that directly related to the employees' jobs or indirectly through being facilitators of good job performance. Strategic training was resorted to in order to improve organizations' competiveness and render their workforce more flexible and competent. In addition, training programs were typically designed to help organizations create a competitive advantage through its employees.

Employees' perception of safety highly relates to the perception of management's commitment to safety and the effectiveness of the education and training efforts exerted by their organization (O'Toole, 2002). MEA's training initiatives have

always supported the organization's efforts to establish and maintain a safety culture. With a new mission and vision in mind, MEA set to renovate its current training center and establish a new state of the art training facility to develop flight and cabin crew members. The future training center was planned to harbor the most modern techniques of professional airline trainings,such as high fidelity flight simulators, to ensure high standards of safety governed practice during flights. Such a huge project was MEA's way of expressing its strong commitment towards continuous training not only for legal purposes, but also for career development purposes. It was forecasted that starting March 2015, pilots and co-pilots will be exposed to various career advancement training programs to help them take on new senior roles. Using its Flight Simulated Training Devices (FSTD) MEA hoped to develop training programs that tackle non-technical competencies, such as communication and team building skills, in addition to technical ones since the first have not been properly addressed in conventional training programs.

The Aviation Industry's Safety Concern: Always on The Rise

The aviation industry was known to be quick in learning from its mistakes and improving its policy and training. The never ending safety-driven efforts of the international aviation organizations like ICAO, IATA, and the Flight Safety Foundation have made the number of fatal air crashes decline persistently since 1997.Although travelers might be concerned about their safety especially after the several accidents that took place in year 2014, the Aviation Safety Network (ASN) showed that in terms of fatal accidents, 2014 was the safest year ever. In general, 10% to 40% of the populations of industrialized countries suffered from some levels of fear of flying, and their fears were mainly driven by their fear of aircraft accidents or the loss of control over their current situation (Van Gerwen, Spinhoven, Diekstra, & Van Dyck, 1997).According to

the World Tourism Organization (WTO), around one billion passengers travelled mainly by air during the year 2012 and this number was forecasted to double over the next 20 years. When it came to long haul (long flight time) traffic specifically, the monthly number of passengers was estimated to reach 67 million by year 2032 accompanied by an expansion of airline routes and an increase in the frequency of flights. Such huge numbers alluded to the magnitude of the potential impact of errors committed during flights and exerted a huge pressure on airline companies to maintain high levels of safety. The responsibility that an airline pilot had towards his/her passengers' safety was enormous since one mistake from his/her side could render a flight fatal. ICAO's Safety report for year 2014 showed that the number of fatalities in year 2013 due to air crashes in commercial scheduled transport (173) was the lowest since year 2000, which showed the huge safety advances that had been achieved in commercial aviation. The number of fatal air crash accidents had decreased in the recent years due to the many safety precautions taken by airline companies. In terms of chances and possibilities, the possibility of dying from an air crash was lower than that of dying from a car accident. Specifically, the odds of dying in a car accident were one in 5000 (The International Business Times, 2014),while over a lifetime, the chance of dying in an air crash as the National Safety Council put it, was 1 in 8,357. In spite of the significant safety advances and the low accident rates that had been achieved, the issue of flight safety was still a priority and a major concern for the airline industry as whole.

Human-Automation Interaction and Human Error

According to the FAA National Plan for Aviation Human Factors and other sources, 60% to 80% of accidents and incidents had been attributed to human error. By referring to human errors relating to automation, Airbus's flight operations briefing

notes claimed that "errors in using and managing automatic flight systems and/or lack of awareness of operating modes are observed as causal factors in more than 20% of approach-and-landing accidents and near accidents" (Airbus, Human Performance, 2004)while minimal attention was granted to the failure of monitoring automation. Overreliance on automation had been considered one of the frequent causal factors of incidents and accidents. Automated cockpits like other types of automation had increased safety levels and decreased workload(Flemisch, Kelsch, Loper, Schieben, Schindler, &DLR German Aerospace Centre, 2008).

Active Monitoring During Flights and Its Influence on Training Objectives

The advances in cockpit technology played a significant role in reducing accidents over the past years, but unfortunately such advancement was not matched by an advancement in the training provided to pilots. Flight procedures previously carried out by pilots were executed by autopilots with more accuracy that allowed them to focus on other tasks such as monitoring. Active monitoring was the pilot's own way of being one step ahead of the airplane and forecasting its next automated message that informed him/her about the aircraft's status that might sometimes be a failure. While actively monitoring, pilots were able to form their own big pictures by mindfully observing "the flight path, aircraft system and automation modes" (Flemisch*et al.* 2008).

Nevertheless, pilots used various methods to actively monitorthe aircraft properly especially during critical phases like landings and takeoffs where they had to manually handle the aircraft without the help of the autopilot. Whether they used the standard operating procedures (set by the airline) or they cross checked with the other flight crew member, pilots resorted to all the available resources in order not to allow

any human factor influence their monitoring performance. Studies and many initiatives by airlines had focused on factors that influenced active monitoring either negatively or positively in order to identify the ones they had to hamper and those they should control. From factors that were external to the pilot like distractions coming from the flight attendants or from passengers to those that were internal to him/her like not having enough rest time before flights or not being emotionally at ease can have a significant impact on the pilot's active monitoring performance.

On the bright side, having with the other flight crew member a good relationship that fostered communication and being physically and mentally prepared to fly ensured the right execution of in-flight monitoring. There was a recent focus on monitoring during flights, and airlines developed training programs that help pilots "actively monitor" aircraft systems during flights since studies showed that it was very hard for a person to stay visually focused on a source that was providing fixed information for more than half an hour(Bainbridge, 1983).

In face of the increasing levels of automation in cockpits, MEA had to exert all of its efforts to make sure that all of its flight crew members were fully prepared and trained to perform in highly automated environments.

From Orlando to Beirut: How to Convert An Idea into Action?

As the training manager of MEA, Capt. Abboud was responsible for developing up-to-date training programs to enhance the pilots' performance levels. Capt. Abboud strongly believed in the benefits and the added value of training and MEA's commitment to safety made it mandatory to rely on evidence even in the development of training programs. Capt. Abboud knew that active monitoring during flights was a very important topic that MEA should shed light on in line with its

continuous efforts to become one of the best airlines in the Middle East. But many questions arose from such a determination: How should MEA develop the training program? What sources of information should it rely on? Should it order an off the shelf training program, or should it develop one that is customized to fit its needs? And more importantly should Capt. Abboud resort to MEA's own pilots to get data, how ready would they be to take part in developing their own performance?

CHAPTER III

TEACHING NOTES

Synopsis

With the undeniable skills of its chairman, Mr. Mohammad El Hout, Middle East Airlines was able to regain its strengths and position in the market after both of them were in extreme jeopardy. MEA was suffering from huge losses that forecasted its near downfall, but with various strategies it reassured all that Lebanon's cedar will never cease to have its place in the sky. Currently, MEA has a fleet is made up of 17 aircrafts that reach up to 31 destinations around Europe, the Middle East, and West Africa and caters for around 2.3 million passengers yearly.

After reaching high standards, MEA's main aim was to remain there and its initiatives to enhance all of its functions never stopped. Unlike its industry that is known for learning from its mistakes, MEA refused to be reactive when it comes to the training its pilots and after a flight safety symposium and a near crash incident, it knew what it should focus on. Directly relating to flight safety, active monitoring during flights might be one of the major training targets for airlines around the world. MEA set off to develop a training program that targeted its need and realized that only with proper training needs assessment (TNA) would it be able to do so. With various options relating to developing a training program and with the help of the case readers, MEA wants to choose the optimal solution.

The aim of the case is to give graduate and under-graduate level students the chance to apply their knowledge about training needs analysis which is a fundamental stage in the process of developing training modules in order to make them more

effective. Moreover, students will be exposed the various important evidence-based decisions that revolve around choosing a training topic and developing a program that targets it.

The case asks: How should MEA develop the training program? What sources of information should it rely on? Should it order an off the shelf training program, or should it ask for one that is customized to fit its needs? And more importantly should Capt. Abboud resort to MEA's own pilots to get data, how ready would they be to take part in developing their own performance?

Usage of the Case

The case can be used as instruction material for graduate and undergraduate students in courses that pertain to Human Resource Management, Training and Development, and Aviation Management. The case portrays the importance of training needs analysis in the process of developing training programs, in addition to exploring the optimal data collection method combinations that would yield the most beneficial data. Moreover, an important aspect that will be explored is the process of qualitative data analysis and transforming raw data into usable training material. Another topic that would be highlighted is the organization's readiness to participate in research and to be heavily involved in evidence-based decisions that are targeted towards enhancing its performance.

Learning Objectives

This case will encourage students to:

- *Explore the various levels of urgency and importance of various organizational decisions*

- *Explore the various training options that an organization has when choosing an appropriate training program*
- *Design a Training Needs Analysis (TNA)*
  - Choose the participants from the organizational chart(see Appendix I, Exhibit 1) that should be involved in the TNA
  - Decide on the optimal combination of the data collection methods
  - Triangulate data collection methods and data sources in order to get data covering various perspectives
  - Choose an appropriate composition for methods that require the involvement of more than one participant(focus groups)
  - Explore the feasibility of the data collection methods chosen cost and time wise
- *Conduct qualitative data analysis to convert interview data into usable training material*
  - Understand the importance of de-identifying the data collected in order to protect the human subjects that are involved in the study
  - Transfer transcribed data into codes
  - Group codes into themes that compress the various codes into comprehensive subjects
  - Transfer themes into learning goals and specific learning objectives

Assignment Questions

- Assessthe urgency and importance of the managerial problem that Middle East Airlines is currently facing

- What are the various training options MEA can choose from in order to target its specific training need? Asses each option's advantages and disadvantages
- What are the main considerations that pertain to training that MEA must pay attention to?
- Who are the population from which the sample would be chosen for the training needs analysis?
- What data collection method combination that can be used at MEA that would yield the optimal information quality and quantity? And why?
- What might be some barriers that MEA might face during the data collection phase?
- *Given*: 10 interviews were conducted with 5 pilots and 5 co-pilots and the interviews were transcribedand included as supporting material (refer to the accompanying Excel sheet). The questions that were asked during the interviews and that are included as an Exhibit (see Appendix I, Exhibit 2), were well researched and prepared in a manner that would help get a well-rounded view about active monitoring during flights and training targeted towards enhancing it. Five questions were targeted towards exploring the definition and importance of active monitoring during flights and another two were targeted towards exploring the barriers and facilitators of active monitoring during flights. Critical Incident technique was used to identify the critical negative and positive monitoring behaviors.
  - Why should the participants' answers to the questions be de-identified?
  - Qualitatively analyze the answers to the questions into codes and then into themes
  - Develop some possible learning goals and objectives for the

training program

Sample Teaching Plan

This case can be covered in a 3.5-hour class; it is an in-class activity that can best be solved in groups of three or four depending on the instructor's preference and perceived suitability. We recommend that instructors follow the schedule below:

Table 1

Teaching Plan

Class Discussion Topic	**Key Discussion Points**	**Suggested Time**
Introduction	Understanding the urgency and importance of organizational decisions	20 minutes
Exploring the various training options available when choosing training programs	Choosing an Off-the-shelf vs. a customized training program Developing training programs In-house vs. using external training providers	10 minutes
Designing a TNA	Deciding on the population from which a representative sample must be chosen	15 minutes
Designing a TNA	Exploringthe various methods that would be chosen to collect the data from the participants	30 minutes
Conducting qualitative data analysis	Understanding the importance and aim of data de-identification	10 minutes
Conducting qualitative data analysis	Transferring raw data into codes	60 minutes
Conducting qualitative data analysis	Grouping codes into exhaustive themes	30 minutes
Developing the learning goals and objectives for the training program	Using Bloom's Taxonomy to describe the level of depth and the aim of each training goal and objective	30 minutes

Preparatory/Discussion Questions

Assessthe Urgency and Importance of the Managerial Problem That Middle East Airlines Is Currently Facing

According to Covey's time management model that can be adopted to assess MEA's decision making process, each task should be assesses based on its urgency and importance according to the following matrix:

Table 2

Urgency and Importance Matrix

	Urgent	Not Urgent
Important	Quadrant 1	Quadrant 2
Not Important	Quadrant 3	Quadrant 4

The matrix shows that tasks or decisions that belong to the first quadrant are those that are very urgent and important since they have to be dealt with quickly and that have a huge impact on the organizations strategic objectives. The matrix's second quadrant decisions are those that are important but not urgent, like planning the organization's next steps over the coming five years or planning the training topics that should be targeted over the next year. Such decisions are highly related to the organization's mission and visions, but can be planned carefully over a prolonged period of time. The third quadrant of the matrix shows decisions that are urgent but not important like taking a phone call or tending to a colleague's queries; such decisions have little to no impact on the organization's strategic direction.The matrix's final quadrant includes decisions that are neither urgent nor important, and that would distract organizations from their key tasks. When it comes to MEA in specific,

developing a training program that targets safety is an urgent and important decision to be made since it has a direct impact on its mission, vision, and values and can yield disastrous results if neglected.

What Are The Various Training Options MEA Can Choose From In Order To Target Its Specific Training Need? Asses Each Option's Advantages and Disadvantages

There are many options any company can choose from after deciding that there is a training need, it can either conduct the TNA itself through its training department or it can resort to external training providers. Students have a section in the case that mentions that whether conducted by the organization itself or outsourced, the training program development process highly depends on the accuracy of the execution of its early stages; the TNA.

Another option that any company has is whether to choose an off –the-shelf training program or to choose one that is tailored for its need. Although off-the-shelf training programs are cost effective, tailored ones are more effective in grabbing the trainees' attention. Most of the examples that will be used throughout the training program will allow the trainees to directly relate to them since they would be the ones who provided those examples during the TNA phase. Tailored training would meet the specific needs of the organization rather than providing it with generic solutions that might not yield the needed results.

What Are The Main Considerations That Pertain To Training That MEA Must Pay Attention To?

Outsourcing Training

Organizations are increasingly seeking out the services of external training providers which have resulted in enhanced stakeholders' performance and the ability of the organization to add value to them. Organizations decide to outsource some HR

activities when they think it would give them the chance to either focus on their core business functions or to perform activities more efficiently. When outsourcing training in particular, when the provider's and the client's expectations about training needs are concurrent, it decreases the chances of opportunistic behavior and establishes a sense of trust. Whether developed in-house or outsourced, the early stages of training programs must be carefully executed and monitored.

Training Needs Analysis and the ADDIE Model

A lot of attention is paid to content relevance since content validity is highly correlated to training transfer, which has a huge impact on the success of training. This draws our attention to the importance of training needs assessment (TNA) which is the "process of gathering, assessing, and analyzing data to determine the training needs for an organization" (Reed & Vakola, 2006). For many years TNA has been seen as a very important aspect of training and "most experts agree that human learning, training, and performance improvement initiatives should begin with a needs assessment" (Gupta, Sleezer, & Russ-Eft, 2014). Through TNA, trainers try to find the gap between the current levels of performance and desired ones. TNA is the first stage of preparing a training program, it is part of the ADDIE (Assess, Design, Develop, Implement, and Evaluate) model the main aim of which is to make education and training more effective and efficient and develop better fitting delivery methods to jobs. Another effective use of the TNA is being a way through which training program can be properly evaluated and validated(Brown, 2002). TNA and training evaluation are no longer seen as separate entities since "the purpose of both is to inform training decision makers about implied linkages between training and relevant outcomes" (Taylor, Driscoll, & Binning, 1998). Finally, and for content validity purposes, both the analysis and the design phase should set the grounds for the evaluation phase of the training program which shows that if the

early phases of the ADDIE model were conducted in an improper manner, it will negatively impact the process of evaluating any training program.

Training Transfer

An important aspect that Human Resources departments are urged to take into consideration is training transfer since "40% of trainees fail to transfer immediately after training, 70% falter in transfer 1year after the program, and ultimately only 50% of training investments result in organizational or individual improvements" (Burke & Hutchins, 2007). Training transfer is a very important issue to take into consideration when organizations want to effectively develop training programs. There are many factors that play a role in the training being successfully transferred to the workplace including the trainees' personal characteristics, like their cognitive abilities, perceived abilities to learn, motivation levels and sources, and personalities affect in addition to their perceived value of the training and ways of utilizing it. Managers who valued what they were learning were more likely to apply what they have learnt, and as long as trainees have the personal interest to learn and acquire new knowledge and skills they find valuable, the benefits of training were maintained. In general, trainees must perceive what they are being taught as important to relevant aspects of their work in order for them to consider it valuable.

Who Are The Population From Which The Sample Would Be Chosen For The Training Needs Analysis?

The sample that should be chosen should be a one that represents the population is chosen from which is in this case the pilots and co-pilots at MEA. Representativeness is an important issue in addition to be being able to generalize to the general population. Generalization is when one is able to deduce general characteristics from specific cases it is a "widely-acknowledged as a quality standard in quantitative

research, but is more controversial in qualitative research" (Polit & Beck, 2010). Being able to generalize has many advantages including saving money and time which makes choosing a representative sample rather than collecting data from the whole population a very logical and efficient choice. Randomly selecting our participants will allow us to avoid sample bias and render our data more credible. Random selection has a sanitizing effect and is usually used to avoid selecting a sample for a certain reason. In Goodwin's (1992) work: Justice by Lottery, she states that resorting to lottery would prevent human interference, provide equal opportunities for everyone to participate in a study, ensure that no one would be blamed for the selection, and considers everyone equally qualified to participate in a study.

In our population, there were already two categories: pilots and co-pilots and since seniority is determined by the number or hours each flight crew member has flown, the stratification was based on them (number of hours flown). After separating pilots from co-pilots, each group was divided into subgroups according to a previously set range; afterwards, five pilots and 5 co-pilots were randomly selected from their respective groups.

What Data Collection Method Combination That Can Be Used At MEA That Would Yield The Optimal Information Quality And Quantity? And Why?

While planning the needs assessment, it is very tempting to resort to as many data collection methods as possible in order to acquire more data and have a clearer perspective. When choosing data collection methods, it is important to choose combinations that are efficient time and money wise. Since interviews are the most widely used methods in qualitative research, semi-structured interviews can be used in the TNA since it provides the participants with the needed guidance while allowing them to elaborate further when they find it necessary (Gill, Stewart,

Treasure,&Chadwick, 2008). Another data collection method that can be useful in collecting data is using focus groups which "are used for generating information on collective views, and the meanings that lie behind those views." Focus groups combine interviewing and observations in one method and allow researchers to analyze group interactions (Plummer-D'Amato, 2008). When using focus groups as means of data collection, one should keep in mind that there are some drawbacks which include the formation of unrealistic expectations by the participants, the possibility of the participants feeling uncomfortable to share information in front of others, in addition to the ethical dimension of not being able to ensure that data provided will be kept confidential. Having mentioned the drawbacks, it is important to pay attention to the composition of the focus group since homogeneity is preferred since it encourages participants to express themselves freely (Krueger, 1994). While some participants find it easy to share opinions freely, others require more trust and effort for different reasons.

In the TNA, the focus groups that would have suited the population from which we were collecting data ; each would have been made up of pilots or co-pilots belonging to the same seniority level while keeping trainers, examiners, and those who have management positions in separate groups also. Critical Incident technique (CIT) was included in the interview in order to inquire about significant favorable and unfavorable behaviors in order for us to deduce the behavior needed and that that should be avoided.CIT started as a set of observations of a group of significant human behavior, but in 1978, Cooper and colleagues modified this method and "interviewed anesthetists and obtained descriptions of preventable incidents" (Mahajan, 2010).Finally and as another method of data collection, we conducted a documentary analysis of public documents in order to know the industry standards and determine whether or not a need actually exists. In addition to extracting information from existing documentation and

the pilots themselves, it would be of a great value to extract reports from MEA's HR department that would identify certain incidents that would serve as a "passive" CIT, since from those incidents we would be able to also identify possible existing gaps in the pilots' monitoring skills levels.

In MEA' case, we were able to successfully triangulate methods, since we collected data using three data collection methods: semi-structured interviews,CIT, and existing documentations. There are many advantages of method triangulation including the fact that it allows the multiple methods used to complement each other and make up for each other's weakness which would consequentlyallow hidden information to emerge (Thurmond, 2001).Unfortunately, we were not able to triangulate sources due to the complexity of the schedules of the training pilots which lead to their frequent unavailability. Although we haven't used it ourselves, we advise future efforts to be targeted towards collecting data from other stakeholders which would grant the study a more holistic view of the topic.

What Might Be Some Barriers That MEA Might Face During The Data Collection Phase?

One of the most significant barriers that research might face in similar situations is the participants' reluctance to share and disclose opinions and experience fearing that they would be held against them at a certain point of time. As mentioned in one study by Mahajan (2010), some problems facing the appropriate adoption of incident reporting systems in healthcare include "fear of punitive action, poor safety culture in an organization, lack of understanding among clinicians about what should be reported, lack of awareness of how the reported incidents will be analyzed, and how will the reports ultimately lead to changes which will improve patient safety." Although some of the problems mentioned are very specific to the study mentioned above, but

they can easily be adapted to fit into the aviation industry since it's a high risk industry that is concerned with safety as its bottom line.

Given: 10 Interviews Were Conducted With 5 Pilots and 5 Co-Pilots

The interviews were transcribed and included as supporting material (refer to the accompanying Excel sheet). The questions that were asked during the interviews and that are included as an Exhibit (see Appendix I, Exhibit 2), were well researched and prepared in a manner that would help get a well-rounded view about active monitoring during flights and training targeted towards enhancing it. Five questions were targeted towards exploring the definition and importance of active monitoring during flights and another two were targeted towards exploring the barriers and facilitators of active monitoring during flights. Critical Incident technique was used to identify the critical negative and positive monitoring behaviors.

Why Should The Participants' Answers To The Questions Be De-Identified?

The Institutional Review Board (IRB) has placed some guidelines for researchers to follow in order for their research to be abiding by the international standards of human subjects' protection. One of the conditions for getting the approval of the IRB is "that subjects will not be identified in any presentations or publications based on the results of the research"[1]. De-identifying information will serve as means to protect the participants and reassure them that the information they are disclosing won't be traced back to them.

Qualitatively Analyze the Answers to the Questions into Codes and Then into Themes

Qualitative content analysis is a proper way that can used in order to either develop new theories or models or revalidate existing ones and provide detailed descriptions for various phenomena and settings. When conducting qualitative research,

[1] https://uthsc.edu/research/research_compliance/IRB/docs/sops/SOP08.pdf.

researchers sometimes have to no intentions to revalidate existing theories; they rather want to immerse themselves in the raw data and allow categories to emerge.

For MEA's TNA, qualitative content analysis was used in order to develop a training goals and objectives that reflect the needs expressed by our sample. As mentioned above qualitative content analysis can be used to analyze the collected data by carefully examining words and classifying chunks of texts into categories that share similarities (Hsieh &Shannon, 2005). As Hsieh &Shannon (2005) mention in their paper concerning approaches to qualitative content analysis, the researchers would start by "highlighting the exact words from the text that appear to capture key thoughts or concepts. Next, the researcher approaches the text by making notes of his or her first impressions, thoughts, and initial analysis. As this process continues, labels for codes emerge that are reflective of more than one key thought. These often come directly from the text and are then become the initial coding scheme."(p. 1279)

Included as an Exhibit (see Appendix I, Exhibit 3) is an example that illustrates how answers to one question were divided into units of analysis and then transferred into codes which were later on grouped into themes.

Develop Some Possible Learning Goals and Objectives for the Training Program

"Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity" (Forehand,2010). In Bloom's original taxonomy is known for its cumulative hierarchal structure in such a way that each level is followed by one that is more complex than the one before and requires the accumulation of its behaviors in addition to others to achieve it. The taxonomy's simplest level is the knowledge one, then the comprehension level, followed by the application level, then the analysis level, then synthesis level to finally lead to the final stage which is the evaluation one.An example of Blooms Taxonomy is attached as an Exhibit (see

Appendix I, Exhibit 4); it can be used by students to formulate training/learninggoals and objectives. Using the Bloom's Taxonomystudents will be able to develop training goals and objectives for the training program and a major step here is to discuss the difference between training goals and training objectives. Training goals are usually broad, general, and intangible while objectives are specific, measurable, and well defined; learning goals usually have several learning objectives.

After conducting the qualitative content analysis, students can suggest learning goals and objectives that would target the needs of the organization; a suggested goals and objectives are presented as an Exhibit (see Appendix I, Exhibit 5).

Table 3

Relevant Articles

Article Reference	**Main Objective**
Aguinis, H., & Kraiger, K. (2009). "Benefits of training and development for individuals and teams, organizations, and society". *Annual Review of Psychology, 60*, 451-474.	The benefits of training and development on various levels
Chevalier, R.D. (2011). "When did ADDIE become addie?" *Performance Improvement, 50*(6), 10-14.	The evolution of the training development process
Kirkpatrick, J. (2007). "The hidden power of Kirkpatrick's four levels". *T AND D,61*(8), 34.	The added value of Kirkpatrick's four levels
Grossman, R., & Salas, E. (2011). "The transfer of training: what really matters". *International Journal of Training and Development, 15*(2), 103-120.	The importance and the facilitators of training transfer
Bulut, C., & Culha, O. (2010). "The effects of organizational training on organizational commitment". *International Journal of Training and Development,14*(4), 309-322.	The effect of training on organizational commitment
Gadeceau, J.F. (2012). "Selection for participation in training and its potential effect on transfer: encouraging good practice". *International Journal of Training and Development, 16*(2), 137-144.	The importance of choosing the right employees to participate in training
Flouris, T., & Yilmaz, A.K. (2009). "Change Management as A Road Map for Safety Management System Implementation in Aviation Operations: Focusing on Risk Management and Operational Effectiveness". *International Journal of Civil Aviation, 1*(1).	The essential role the safety management system in maintaininghigh levels of safety
http://www.caa.co.uk/docs/33/9323-CAA-Monitoring%20Matters%202nd%20Edition%20April%202013.pdf	The importance of monitoring in the aviation industry
Parasuraman, R., & Manzey, D.H. (2010). "Complacency and bias in human use of automation: An attentional integration". *Human Factors: The Journal of the Human Factors and Ergonomics Society, 52*(3), 381-410.	The interplay between the operator's attention, automation bias, and compliancy and the various influencing characteristics

CHAPTER IV

CONCLUSION

When trainees or students gain well established knowledge about a certain skill that allows them to easily articulate it, they are said to have declarative knowledge. In simple terms, declarative knowledge is"*knowing that"* while procedural knowledge is "*knowing how"*(Colman, 2009a). This case aimed to give students and professionals the chance to develop their declarative and procedural knowledge and encourage them to put theory into practice. Your role as the instructor is to provide them with the best facilitating tools that can promote the learning process and help them reach their optimal grasping abilities. Research shows that the three important components that ensure effective teaching and learning are goal clarity, teacher support, and a supportive learning climate (Seidel & Shavelson, 2007). Well prepared teaching notes provided with cases present instructors with at least two of the major components since they clearly identify the learning goals and objectives of the cases in addition to providing them with suggested teaching plans that they can follow in order to properly cover all the topics of the case. Moreover, by providing the instructor with discussion questions, the attached teaching notes would attain another component that ensures effective learning and teaching which is the teacher's support component that requires from the instructor to provide his/her students with examples, discussion questions, and constructive feedback (Stürmer, Könings, & Seidel, 2013). Using educational cases allows instructors not only to transfer Human Resources (HR) –related knowledge to his/her students, but also skills that the latter can amend and adapt according to their preferences. Lebanon and the region lack tailor made teaching material that provides

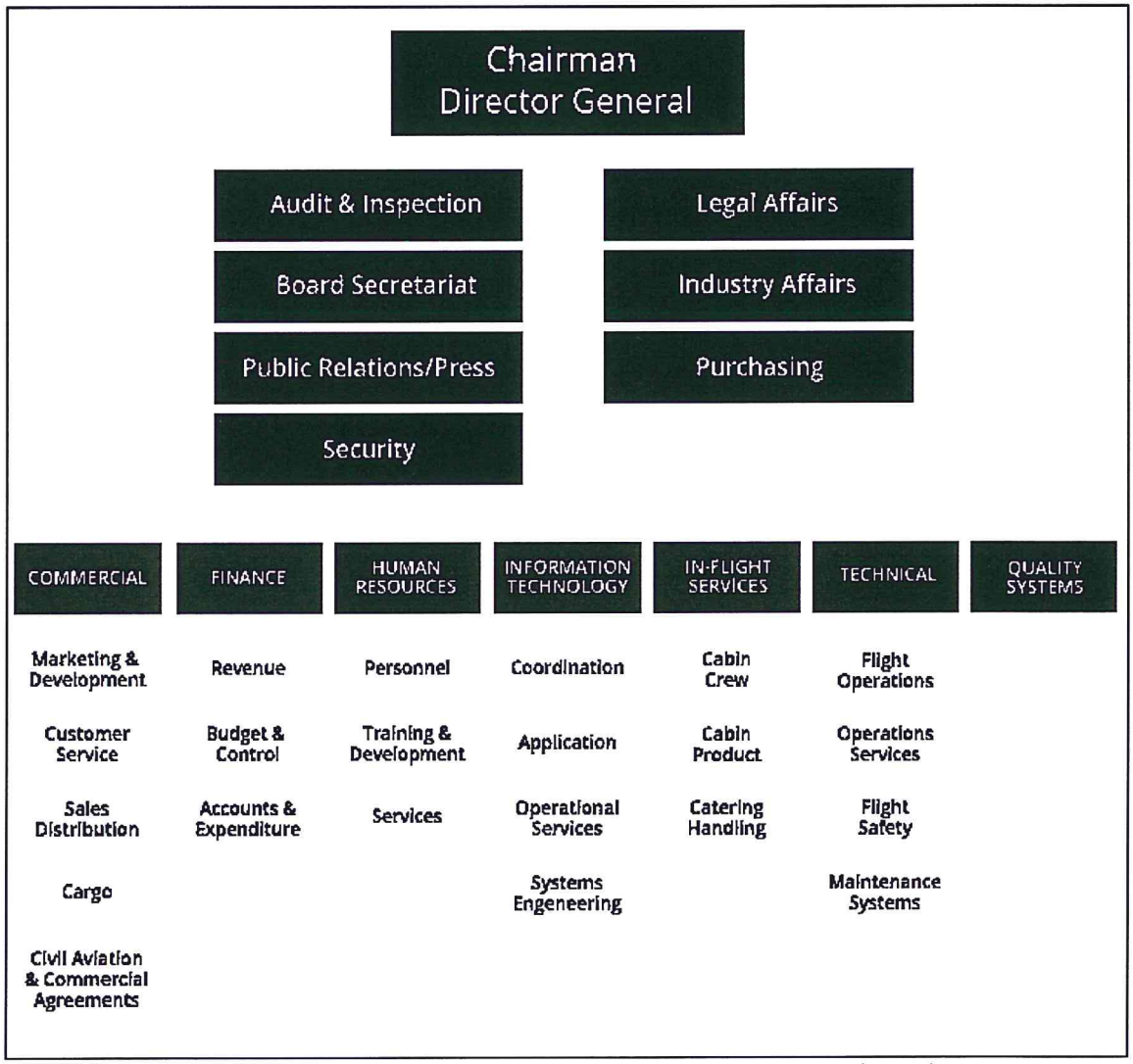
students with opportunities to develop their skills using examples that they find relevant to their region. Students will more likely find themselves in situations similar to those described in the case since they have taken place in their region or even their countries. The case, being a form that promotes problem-based learning(PBL), enhances the students' performance and their knowledge retention ability.Although many professionals have enough years of experience rendering them experts in their fields, teaching cases like the one we have prepared would challenge the different approaches that each professional or student might resort to whether suitable for the situation at hand or not.

APPENDIX I

EXHIBITS

Exhibit 1

Middle East Airline's Organizational Chart



Note: Middle East Airline's Pilots group belong to the Flight Operations department
Source: MEA. "Organizational Chart."Middle East Airlines; available from http://www.mea.com.lb/english/about-us/organizational-chart; Internet; accessed 26 January 2015.

Exhibit 2

Interview Questions

I. <u>Exploring the definition of active monitoring and its importance:</u>

1. Automation provides benefits beyond human capabilities, and their classic aim according to researchers is to replace the manual work that was previously done by humans. But other researchers believe that automation might have reached point where it can't offer additional means of safety enhancement
   - According to you, how does automation positively affect human performance?
   - According to you, how does automation negatively affect human performance?
2. Very recently active monitoring during flights has received a lot of attention in the aviation training field. The Loss of Control action group claimed that monitoring was one of the key techniques that would promote safety by preventing loss of control accidents and incidents and allowing smooth recoveries from them.
   - How important do you think is active monitoring during fights?
3. What behaviors do you think show that a flight crew member is properly monitoring?

II. <u>Barriers and Facilitators of active monitoring during flights:</u>

4. What do you think might be some barriers to effective monitoring during flights?
5. What do you think might be some facilitators to effective monitoring during flights?

III. <u>Critical Incident Technique:</u>

6. Please describe a situation you either encountered or heard about where effective and timely monitoring skills were used to avoid a problem (or solve it)
7. Please describe a situation you either encountered or heard about where ineffective monitoring behaviors were demonstrated.
   - What were the consequences?

Exhibit 3

Sample Coded Interview Question

According to you, how does automation positively affect human performance?			
Source	**Unit of Analysis**	**Theme 1**	**Theme 2**
FOEA.1	allows flight crew to manage the flight better	Better Flight Management	Better Flight Management skills
FONM.1	more management efforts	Better Flight Management	
FORM.1	concentrating on managing the flight	Better Flight Management	
CPJB.1	it allows us to have more time to analyze and manage the events that happens to us	More time for data analysis	
FONM.1	Increase CRM between all crew members	Better communication	Better performance: the aircraft and the flight crew
FORM.1	airplanes have become easier to fly	Making it easier and smoother to fly	
CPII.1	helping the pilot handle the A/C through automation in an easier and smoother way	Making it easier and smoother to fly	
CPWY.1	lets the pilot act properly in critical phases	Better reaction during critical phases	
CPZI.1	gives us the chance to be relaxed so that when we need to fly manually, we would be more ready	Better reaction during critical phases	
FOFR.1	when we reach major phases like the landing phase, which needs a lot of alertness, I can give it my 100 % because I am relaxed	Better reaction during critical phases	
FOFR.1	more relaxed when incidents happen	Better reaction during critical phases	
CPWY.1	keeps the pilot involved and thinking	Keeps pilot aware	
CPWY.1	Airplanes can fly on autopilot for a longer time than a human would while maintaining a certain trajectory or a certain level flight	Enhances the performance of the airplane	
CPJB.1	allow us to go to airports with marginal weather with no visibility at all	Enhances the performance of the airplane	
CPZI.1	this helps a lot in doing a better job	Enhances the performance of the flight crew	
FOEA.1	here to help us perform our tasks better	Enhances the performance of the flight crew	
FOSD.1	remover fatigue from flight	Remove Fatigue	
FONM.1	Less workload	Decreases workload	
CPZI.1	it takes away a lot of load that could distract our concentration	Enhances the flight crew's concentration	
FORM.1	reduces work-load	Decreases workload	
FOSD.1	reduces work-load from the flight crew	Decreases workload	
FOSD.1	half of the work would be gone	Decreases workload	

Exhibit 4

Bloom's Taxonomy

- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- **Applying**: Carrying out or using a procedure through executing, or implementing.
- **Analyzing**: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing.
- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

Source: Anderson & Krathwohl, 2001, pp. 67-68.

Exhibit 5

Suggested Training Goals and Objectives

What is monitoring?

Learning Goal: Defining active monitoring and its main elements

Specific learning Objectives:

- Exploring the definition of active monitoring
- Analyzing the main sources of information that should be monitored
- Understanding the importance of checking what processes automation is conducting

Why is active monitoring Important?

Learning Goal: Recognizing the importance of active monitoring and its role in promoting flight safety

Specific Learning Objectives:

- Exploring the possible unexpected events that take place on board an aircraft due to passengers
- Exploring main drivers of overreliance on automation and complacency
- Analyzing the negative effects of automation on pilots
- Differentiating between the main limitations that automation has and automation failure
- Understanding the sources of miscommunication between automation and humans since they are hard and complex to understand

What impacts monitoring?

Learning Goal: Analyzing the main influencers of active monitoring during flights at the personal, crew, and organizational levels

Specific Learning Objectives:

- Differentiating between the various sources of stress in aviation and its effects on the pilot's performance
- Categorizing and understanding the sources of boredom in aviation and its effects
- Explaining the disadvantages of using external sources to decrease boredom levels
- Critiquing the organizations' strategy towards duty and rest time
- Exploring the impact of possible distractions from guests, cabin crew, and flight crew on proper active monitoring

Strategies that promote active monitoring during flights

Learning Goal: Creating strategies at the personal, crew, and organizational level that would promote active monitoring during flights

Specific Learning Objectives:

- Planning performance to promote pro-activeness during flights
- Planning performance to stay alert during flights
- Generating and developing proper methods to sustain active monitoring when under stress
- Promoting commitment to ones job as an Airline pilot-The effects of commitment on performance
- Planning activities carefully before flights such that pilots report to duty healthy and able to perform up to the needed standards
- Creating efficient flow patterns that promote active monitoring during flights
- Implementing SOP in a proper manner to promote active monitoring during flights
- Properly executing the act of active monitoring by using callouts
- Recognizing the importance of Establishing an environment of trust and openness to criticism in the cockpit and in the cabin
- Developing enforcing policies that stress on the importance of active monitoring and its facilitation

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