YANGON UNIVERSITY OF ECONOMICS

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MASTER OF PUBLIC ADMINISTRATION PROGRAMME

A STUDY ON JOB EFFECTIVENESS OF MYANMAR CIVIL AVIATION TRAINING INSTITUTE

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ABSTRACT

This study is to identify the training courses provided by Myanmar Civil Aviation Training Institute and to analyze the job effectiveness of MCATI in civil aviation. The study applies the descriptive method. This study applies a random sampling method. For primary data, the structured questionnaire is used to collect data from 142 respondents who are from departments of ground handling services of two airlines at Yangon International Airport. Secondary data are collected from the report of respective functional departments of the company and reference paper from the internet and texts. The study finds out that the ground handling activities are required many graduates from MCATI. This study indicates that the company offers opportunities for the promotions and career development of the respondents as their status. It is found that they have to utilize their skills and abilities as much as they could in the ground handling industry. The respondents have been offered regular training and update and recurrent training. Then the study finds out the level of satisfaction on the job from the respondents in ground handling and the level of agreement on the effect of courses provided by MCATI for the ground handling industry is found out in this study. It suggests that there will be more effectiveness in ground handling if ground handling employees are given international skills to join the international ground handling market.

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LIST OF ABBREVIATIONS

AHM	Airport Handling Manual
AOC	Air Operator Certification
ATC	Air Traffic Control
ATCOs	Air Traffic Control Officers
CARC	Civil Aviation Regulatory Commission
CATI	Civil Aviation Training Institute
DCA	Department of Civil Aviation
DG	Director General
DGR	Dangerous Goods Regulations
EASA	European Aviation Safety Agency
FOD	Foreign Object Debris
GHM	Ground Handling Manual
GSE	Ground Support Equipment
GSPs	Ground Service Providers
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IGOM	IATA Ground Operations Manual
ISAGO	IATA Safety Audit for Ground Operations
JCAR	Jordanian Civil Aviation Regulation
KII	Key Informant Interview
LIR	Loading Instructions Report
MCARs	Myanmar Civil Aviation Requirements
MNA	Myanmar National Airlines
MOT	Ministry of Transport
OPS	Operation Procedure Standard
SMS	Safety Management System
UNDP	United Nations Development Programme

CHAPTER 1

INTRODUCTION

1.1   Rationale of the study

Airports are upgrading continuously to enhance their infrastructure and improve customer experience. Aircraft ground handling system is involved in various operational services to reduce ground time and to improve aircraft productivity between its arrival and next departure. To minimize the turnaround time, speed, efficiency, and accuracy are most important in ground handling services.

The demand for specialized functioning of ground handling services has been accelerated as the number of passengers, air cargo and airports grow profoundly. Activities like aircraft fueling, loading and unloading aircraft, and overall security require high level of expertise, investment, and a highly trained and skilled workforce. These high precision activities are efficiently carried out by certified ground handling companies that have workforce which provides end-to-end quality service of global standards with world class technologies and equipment to carry out the same.

Airlines must assist ground handlers to meet demand by standardizing training. In order to be able to provide high quality services, there is a lot of work that ground handling companies need to do to develop the skills of the staff. Aviation training centres work with ground handling companies and provide them with training and consultations to help increase the quality of their staff.

The quality of services is based on human performance in ground handling where the key aspects of developing high quality are to adopt the training which is approved by the industry in line with a strictly controlled quality. Training centres use high quality programs and equipment with specific practices and procedures in accordance with industry standards to ensure training quality. Ground handling companies must always maintain the care of their employees' professionalism and qualification. If they want to provide high-quality and cost-effective services for airlines they have to ensure that the staff use the latest training techniques along with the best industry standards.

Regarding labor, there are the usual factors influencing productivity such as staff knowledge and skills, communication, equipment design, safety and overall employee job satisfaction. Staff performance problems are most often revealed in incidents related to unexpected disruptions such as aircraft ground damage, accidents, equipment failures, etc. Given the range of challenges airlines face relating to ground handling, multi-faceted approaches are needed, including better safety audits, training and new technologies. The IATA Aviation Ground Handling Report 2019 estimates that 83,000 extra ground staff will be required in the next three years to meet airline operational requirements. Nevertheless, industry growth will continue to generate jobs even as technology advances. A recent study of ground handlers by IATA revealed that technology will never completely replace the need for human resources.

In Myanmar, there is an institute that produces qualified skilled employees for ground handling industry for the airlines. This institute is Myanmar Civil Aviation Training Institute which has been established to deliver basic training for civil aviation and it has upgraded the standards as stipulated by the International Civil Aviation Organization in accordance with the Annexes to the Convention on International Civil Aviation. The employees from ground handling industry of the airlines have to attend upgrading courses provided by that institute to meet the required qualifications of ground handling services. It can be found that the products of that institute can meet the required qualifications of civil aviation industry. That is why this study was carried out to identify the courses provided by MCATI and job effectiveness in civil aviation pertaining to ground handling.

1.2 Objectives of the Study

The objectives of this study are:

(1) To identify the training courses provided by Myanmar Civil Aviation Training Institute and

(2) To analyze the job effectiveness of Myanmar Civil Aviation Training Institute in ground handling industry

1.3 Method of the Study

The descriptive method is applied for the study. Both primary and secondary data were used to fulfill the objectives of the study. Then quantitative and qualitative methods were also used

for the analysis of job effectiveness in civil aviation. A survey was done on respondents of certificate holders in ground handling industry. Respondents were selected by random sampling method. The survey was conducted using well-prepared questionnaires. And, key informant interview (KII) was used to provide in-depth insight into ground-handling services by using the techniques of telephone and face-to-face interviews.

The secondary data were collected from reports of Department of Civil Aviation, Myanmar Civil Aviation Training Institute, Myanmar National Airline, documents, articles, research papers and websites, etc.

1.4   Scope and Limitation of the Study

This study mainly focused on the job effectiveness of MCATI in the ground handling industry of civil aviation at Yangon International Airport. The size of the sample selected for the study was 142 respondents who are from departments of ground handling services of two airlines out of 6 airlines at Yangon International Airport. Key informant interviews were also made with the responsible persons of Myanmar Civil Aviation Training Institute and respective persons from two airlines, MNA and KBZ to get the required information. The two airlines were chosen mainly because of the large number of ground service personnel at Yangon International Airport and a large number of qualified graduates according to CATI records.

1.5   Organization of the Study

This thesis is organized into five chapters. Chapter one is an introduction, Chapter Two is a literature review on the concept of ground handling in civil aviation, the regulations of ground handling in civil aviation in other countries, and related research. Chapter Three covers the history of Myanmar Civil Aviation Training Institute, current practices of regulations in research the ground handling industry, and training courses provided by MCATI. Chapter Four presents the data analysis and discussion of survey data in the ground handling industry of the airlines at Yangon International Airport. Chapter Five entails a Conclusion that includes findings and recommendations drawn from the findings.

CHAPTER 2

LITERATURE REVIEW

2.1   Overview of Ground Handling

The term 'ground operations' encompasses the non-maintenance tasks carried out whilst an aircraft is on the tarmac before and after a flight. This includes a wide range of workers, such as aircraft fuelers, baggage handlers, ramp agents, aircraft cleaners, caterers, customer service staff, load controllers, and flight dispatchers Amba, N. M. (2020).

Ground handling services at commercial airports were strictly conducted by the airlines themselves. In a move to concentrate on their core business and lower labor and equipment costs, several airlines began to contract with third parties to provide the service. However, as the airline and airport industry has evolved, there have been several airports that have considered getting into the ground handling service industry for the airlines, similar to the business model of many privately operated airports around the world.

Providing ground handling service to airlines for a profit is one of the innovative ideas, and has several advantages besides the potential revenue opportunities. Ground handling services is one opportunity that should be explored if the conditions are right for profitability and increased customer service.

Ground handling operations have increased in parallel with airport development and traffic growth, corresponding to larger numbers, sizes, and types of aircraft. Also, the demand to achieve minimized turnaround and stand occupancy times has increased. This has led to a rise in simultaneous ground handling operations and the support equipment required. Industry collaboration is essential to maintaining and improving safety in this complex environment.

Specifically, the International Air Transport Association (IATA) is a trade association of the world's airlines founded in 1945 consisting in 2016 of 290 airlines, primarily major carriers, representing 117 countries (https://www.iata.org/en/about/members/airline-list/). IATA called for the industry's support with, recording incidents through IATA's Safety Exchange platforms, implementing Ground Support Equipment (GSE) proximity sensing and warning devices, and mitigating aircraft loading errors.

Advanced ground handling training has been identified as another key component to improving safety, training staff for safe operations remains paramount, and new training technologies play an important role and innovative virtual reality tools.

2.2   Global Standards for Ground Handling

IATA called for the ground handling industry to accelerate the global adoption of the IATA Ground Operations Manual (IGOM) to ensure a level of operational consistency and safety across the industry worldwide. Global standards applied consistently are the only route to safe, secure, and efficient ground operations. IGOM has been proven to be effective and continues to gather support from not only airlines and GSPs but also regulators, airports, and other industry bodies.

IATA also called on governments to recognize the IATA Safety Audit for Ground Operations (ISAGO)—based on IGOM standards—in their regulatory frameworks. Recognition by governments of ISAGO in their regulatory framework, as an acceptable means of compliance for operators' oversight of outsourced services in ground operations, is the key to greater harmonization across the industry, the reduction of duplicate audits the providers are facing, and improving safety and enhancing operational efficiency. As of April 2019, the number of Ground Service Providers (GSPs) in the ISAGO Registry surpassed 184, with 311 accredited stations in 212 airports worldwide. ISAGO is recognized by numerous airports, including Amsterdam Schiphol, London Heathrow, Seattle Tacoma, Miami, Hong Kong, and Singapore. And Civil Aviation Authorities including Lebanon, Jordan, Turkey, Netherlands have also recognized ISAGO (IATA Pressroom, 27 May 2019).

2.3   The History of International Air Transport Association (IATA)

The International Air Traffic Association was established in the Hague in 1919, the same year that the world's first international scheduled airline service was provided and was initially limited to the membership of European airlines until Pan American joined the Association in 1939.

The contemporary IATA, which emerged as a dynamic and robust organization, was established soon after the Second World War and on the side-lines of the Chicago Conference in December 1944. Its beginning is regarded as a reactionary response to the failure of the Chicago Conference to achieve multilateral consensus on a set of rules to govern economic aspects of international air transport. States that attended the Chicago Conference were unable to agree on a scheme, either within the Chicago Convention or its associated multilateral Instruments, to

promulgate rules on tariffs for international air transport. This failure is considered to be the catalyst that led to parallel discussions at the Chicago Conference and the formation of a trade association of airlines engaged in scheduled international air transport under the name IATA.

After the Second World War, civil aviation experienced extensive growth. A trade association of international airlines with a systematic organization and commensurate infrastructure was required to address the needs of a growing number of international airlines from diverse regions of the world. The blueprint for IATA was laid by airline representatives attending the Chicago Conference, who circulated a draft Articles of Association that was later adopted by members at the inaugural conference of the IATA in Havana in 1945. IATA convened its inaugural Annual General Meeting in Montreal in October 1945, after which a Canadian Act of Parliament conferred corporate personality upon IATA.

After its founding and incorporation as a trade association, IATA assumed extensive functions and powers, as set out in its Articles of Association. The primary objective of airline representatives in establishing IATA was to create a multilateral scheme that would facilitate member airlines to collectively agree on pricing mechanisms and tariffs for international air transport. According to its express mission, purposes, objects, and aims, IATA was established as a trade association to facilitate air transportation-related matters on behalf of its members and to perform tariff coordination through its Traffic Conferences. However, in the 70 years following its establishment, IATA has altered significantly from its original character. The contemporary IATA is not only a trade association but is also a dynamic commercial enterprise that earns profits from supplying products and services to the airline industry. From its original role as facilitator, IATA has transformed into a powerful non-governmental body that both directly and in directly impacts and exercises significant control over a wide range of matters in civil aviation worldwide (Hettiarachchi, 2018).

2.4   IATA's Relevance to the Aviation Industry

International Civil Aviation Organization (ICAO) and government regulators mandate standards and processes to be employed to achieve safety and security and to facilitate many areas of operations relating to air transport. IATA develops specific processes, guidance materials, document templates and other tools for day-to-day use by the airline industry to facilitate compliance with the standards and regulations governing air transport. IATA guidance material

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and products are incorporated into manuals and guides that are published for sale to the airline industry. These manuals contain best practices, processes and guidelines that are fashioned upon regulatory platforms to be consistent with the requirements imposed by the Annexes of the Chicago Convention and the Standards and Recommended Practices that flow there from. Due to their convenience, IATA products have acquired a high level of contemporary recognition in the airline industry and are commonly accepted as industry standards to achieve uniformity in procedures, processes and practices applicable to civil aviation. Through its numerous programmes and initiatives, IATA has cleverly-devised tools, guides, reference manuals and a host of services for management and training which are deemed essential by the airline industry. IATA products and services obviate the need for airlines to independently develop their own resources or solutions—at great cost—for operational matters. The absence of consistency in this independent approach would lead to the propagation of piecemeal standards and practices, and would ultimately defeat the imperative objective of uniformity, which is essential in international air transport. Therefore, IATA products and services have become extremely popular amongst airlines, which frequently rely on them to enhance their knowledge of and operational efficiencies in relevant areas.

Product and service offerings of IATA came about due to a paradigm shift in its core business activities. Curiously, IATA's existence now appears to be dependent on its ability to generate funds and to remain relevant to the industry. It achieves these goals through the development of industry solutions, products and service offerings. However, this focus on the commercial pursuits of IATA may not always result in the interests of the airline consumer being given precedence over those of IATA (Hettiarachchi, 2018).

2.5   Importance of Ground Handling Services for Civil Aviation

Ground handling services consist of all ground-based aviation-related activities carried out for individual airlines at airports and are a key function in the aviation chain. Ground handling services are important because it makes possible for flights to land and take off on time, ensures that all boarding cards are issued correctly and that passengers' bags are security checked and then loaded on to the right aircraft. Ground handling services cover the following 11 categories of services:

(1) ground administration and supervision;

(2) passenger handling;

(3) baggage handling;

(4) freight and mail handling;

(5) ramp handling;

(6) aircraft services;

(7) fuel and oil handling;

(8) aircraft maintenance;

(9) flight operations and crew administration;

(10) surface transport;

(11) catering services.

The efficient provision of ground handling services is important for airports, airlines and passengers, and is crucial for the efficient use of air transport infrastructure and the performance of the aviation system in general.

2.6   Airport Operator Selection Determination Process of Jordan based on IATA

Upon receipt of an application for a ground handling selection, the airport operator shall process the application in order to verify that the applicant has established a satisfactory ground handling manual which has been prepared and submitted to the airport operator for approval. A satisfactory internal audit has been conducted in accordance with the Airport Handling Quality Audit and Recommendations for Airside Safety Performance Audits. An acceptable safety management system is established within the organization and an acceptable training program is established. The ground handling facilities, services, procedures, training and equipment are appropriate for the scope of the proposed operation and in accordance with the relevant IATA standards and recommended practices. The ground handling of dangerous goods is conducted in accordance with the JCAR OPS1 Hazardous Materials and IATA Dangerous Goods Regulations latest revision. The company or self-handler is capable of operating in accordance with its ground handling manual (GHM). Upon successful completion of the application process, the airport operator may issue his determination and shall reach an agreement which may endorse it with conditions or limitations to the operations as required (JCAR, 2018).

2.6.1 IATA Ground Handling Procedure

The ground handling manual is a fundamental requirement of the selection criteria. It shall contain all the pertinent information concerning the ground handling facilities, services, and equipment, operating procedures, training program, organizational structures and safety management system. The information presented in the ground handling manual shall demonstrate that the company or self-handler conforms to the standards and recommended practices contained in the IATA Airport Handling Manual and Dangerous Goods Regulations current edition, and to the requirements of JCAR Part 120.

The ground handling manual is the company's or self-handler's policy and procedures document and provides the ground handling standards to be maintained and the level of services that the company or self-handler can provide at the applicable airport. Information provided in the ground handling manual will enable the airport operator to assess the suitability of the company or self-handler for the type and scope of operations proposed. It is the basic reference guide for conducting audits and inspections, for issuing a ground handling selection determination and for subsequent safety inspections. The ground handling manual shall be developed by the ground handling company or self-handler and approved by the airport operator.

The ground handling manual is subject to amendments, in order to ensure that it provides current and accurate information at all times. The selected ground handling company or self-handler is responsible in this respect and also for submitting amendment for airport operator approval.

The ground handling company or self-handler shall include the following particulars in the ground handling manual (detailed in Appendix A):

(a) Company's or self-handler administration including the organizational structure, duties, responsibilities and the reporting structure of all management and operations personnel;

(b) Description of the ground handling operation including scope, capabilities, facilities and equipment;

(c) Safety management system in accordance with AHM 610;

(d) Ground handling of dangerous goods in accordance with IATA Dangerous Goods Regulations current edition;

(e) Ground handling procedures, as applicable to the scope of the operation, using the IATA AHM number system to identify the procedures in their respective categories;

(f) Training program including policy and procedures, initial, recurrent and update training;

(g) The ground handling quality audit schedule in accordance with AHM 060–Airport Handling Quality Audit;

(h) The airside safety performance audit schedule in accordance with AHM 612–Recommendations for Airside Safety Performance Audits; and

(i) Ground Support Equipment.

2.6.2   Obligations and Responsibilities about Operation

The airport operator shall ensure the implementation of the provisions of this part for all types of ground handling services for all airport users. Failure to provide such services will be the responsibility of the airport operator who will hold the liabilities.

The selection of a ground handling company or self-handler obliges the ground handling or self-handler to ensure safety, regularity, and efficiency of their operations at Jordanian Airports and to allow personnel authorized by the airport operator and CARC access to carry out safety audits and inspections.

The ground handling company or self-handler shall be insured to cover liability in case of accident or incident, in particular in respect of passengers, baggage, cargo, mail, and third-party insurance.

The airport operator shall ensure that the ground handling company or self-handler airside operations comply with the safety measures as prescribed in the Airport Certification Manual.

2.6.3   Training and Competence

The ground handling company or self-handler shall employ adequate numbers of qualified and skilled personnel for performing all activities in its operations. Where the CARC has established security and competency requirements for personnel, the ground handling company or self-handler shall employ only those persons possessing documented evidence or certificate showing they meet the applicable requirements. The ground handling company or self-handler shall implement a system to maintain the competency of the personnel. The ground handling company or self-handler shall implement training programs that include initial and recurrent

training. Ground handling company or self-handler shall ensure that all their employees involved in the provision of ground handling services, including managing staff and supervisors, regularly attend specific and recurrent training to enable them to perform the tasks assigned to them. Every employee involved in the provision of ground handling services shall attend at least two days of training relevant to the tasks assigned to the employee. Every employee shall attend the relevant training when taking up a new job or when a new task is assigned to the employee. Where relevant for the activity of ground handling services in question, training shall cover at least:

(1) Security, including security control, security of operations, security equipment, and security threat management

(2) Dangerous goods training (see Appendix B);

(3) Airside safety, including safety philosophy, safety regulations, hazards, human factors, airside markings and signage, emergencies, FOD prevention, personal protection, accidents-incidents-near misses, and airside safety supervision;

(4) Airside driver training, including general responsibilities and procedures (reduced visibility procedures), vehicle equipment, airports rules, and layout of traffic and maneuvering areas;

(5) Ground support equipment (GSE) operations and management, including GSE maintenance and GSE operations;

(6) Load control, including general weight and balance proficiency and awareness, aircraft structural load limitations, unit load devices, bulk hold loading, load sheet, balances tables/charts, loading instructions report (LIR), loading messages, and load control of dangerous goods;

(7) Functional training for passenger handling, including training on passenger boarding bridge training and passenger information and assistance by applicable Regulations regarding passenger rights and passengers with special needs and reduced mobility.

(8) Functional training for baggage handling;

(9) Aircraft handling and loading training;

(10) Aircraft ground movement, including aircraft ground movement operations, operation of equipment, equipment-aircraft connect and disconnect procedures, aircraft ground movement hand signals, aircraft marshaling, and aircraft ground movement assistance;

(11) Cargo and mail handling, including applicable prohibitions and restrictions on the trade of goods;

(12) Aircraft turnaround coordination training

(13) Environment, including control of spillages, discharge management, and waste disposal;

(14) Emergency measures and contingency management

(15) Reporting systems

(16) Outsourcing quality control.

The ground handling company or self-handler shall report annually on compliance with its training obligation to the airport operator. The Civil Aviation Regulatory Commission (CARC) inspectors are entitled to audit the ground handling companies or self-handlers without prior notice.

2.6.4 Ground Handling Operations

Ground Handling Operations are carried out in three parts. In those three parts are the ground handling company or self-handler shall operate by the procedures set out in its ground handling manual, unless otherwise directed by the airport operator, to ensure the safety of passengers and aircraft, the airport operator may give written directions to the ground handling company or self-handler to alter the procedures set out in its ground handling manual and the ground handling company or self-handler shall ensure proper and efficient maintenance of its facilities and equipment and shall be checked by airport ground operations.

2.6.5 Safety Management System

Safety management systems are carried out in three parts. In those three parts are the ground handling company or self-handler shall establish a safety managements ystem applicable to the size, scope, and complexity of their handling activities, to ensure that operations are carried out in a controlled and safe manner, the ground handling company or self-handler shall ensure that all management and operations personnel comply with the safety requirements applicable at the Airports by the Standards and requirements established in this part, and shall monitor such compliance and the ground handling company or self-handler shall ensure that all its personnel cooperates in the promotion of safety at the airport by immediately reporting accidents, incidents, defects and faults, which have an impact on safety.

2.6.6   Internal Audits

Internal audit is carried out in three parts. In those three parts are the ground handling company or self-handler shall arrange for an internal airside safety performance audit by Recommendations for Airside Safety Performance Audits AHM 612, the audits, referred to in 140.309 (a) shall be carried out every 12 months and the results shall be submitted to the airport operator and the ground handling company or self-handler shall ensure that suitably qualified personnel prepare the audit reports.

2.6.7   Dangerous Goods Handling

Dangerous goods handlings are carried out in two parts. In those two parts are the ground handling company or self-handler shall demonstrate compliance to recommend practices contained in the IATA Airport Handling Manual and Dangerous Goods Regulations latest revision and every person engaged in the handling, or transporting, of dangerous goods shall be trained in the aspects of these activities that apply to their assigned duties. See appendix (B).

2.6.8   Emergency Response

Emergency responses are carried out in two parts. In those two parts are the ground handling company or self-handler shall establish a formal emergency response procedure and train its personnel on the implementation of that procedure and emergency response contact information shall be made available to all ground handling company or self-handler personnel to enable timely response in case an emergency or incident requiring response action occurs.

2.6.9   External Audit

The external audit is carried out in two parts. In those two parts are the ground handling company or self-handler shall arrange an external audit for the established Safety Management System and the external audit referred to in 140.315(a) shall be carried out every 30 months and the results shall be submitted to the airport operator.

2.6.10 Inspection Authority

Each airport operator shall allow CARC authorized personnel to conduct inspections, including unannounced inspections, or spot inspections to determine compliance with this part, when it is warranted.

2.7   Training Programs

The aviation industry is highly changing and developing under the competitive environment. As air traffic both business and leisure, increases the importance of airport and airline operations are getting significant for the customers/passengers. Most airports are the centers of transportation and extremely busy at the peak of their capacities. The emergence of privatizations, deregulation, and new comers as low-cost carriers in recent years causes new challenges for ground handling companies that are crucial partner for airlines. Airport ground operations (or ground handling services) are within the scope of traditional airport procedures for aircraft at airside and passenger service at the land side/terminal. Ground handling services are given to an airline between landing and take-off of the aircraft. Services to given aircraft and passengers are marshaling of aircraft, (un)loading, refueling, cleaning, catering, baggage handling, passenger handling, cargo handling, aircraft maintenance, and aviation security services. The value contribution of these services can be explained as preparing the aircraft from its ground-time until the next flight. As defined in the International Air Transport Association (IATA) Airport Handling Manual (AHM 810, Annex A); Ground Handling Services are including representation, administration and supervision; passenger services; ground services; load control, communications and flight operations; cargo and mail services; support services; security services; aircraft maintenance. Ground Handling has the complex series of processes. It is separating an aircraft from its load (passengers, baggage, cargo and mail) on arrival and combining it with its load prior to departure. Ground handling is an integral part of airline operations.

From the inefficiencies associated with multiple ground handlers, suboptimal airport designs and a lack of standardized procedures, to unexpected, costly aircraft ground damage and ineffective resource management, it is clear that ground handling requires better solutions.

Many airlines are attempting to address these challenges by outsourcing their ground handling to third parties. The International Air Transport Association's (IATA) data suggests that

more than 50 percent of all ground handling is managed by the more than 1,000 ground handlers worldwide.

Other measures airlines are taking include investing in advanced technologies, and embarking on robust employee training programs. The following training programs are the ones employees should be given-

(1) Ramp Operations

On completion of the training, trainees should be able to manage the safe arrival and on-time departure activities of aircraft on the ramp. They should also be able to deploy technologies such as electronic tracking of ground equipment and vehicles to develop solutions to common ramp problems.

(2) Baggage Handling Services

On completion of the training, trainees should be able to manage the proper and timely loading/unloading of baggage in an aircraft and terminal. They should also be able to operate the baggage handling system to manage aviation security, passenger experience and airport operations.

(3) Cargo and Warehouse Operations

On completion of the training, trainees should be able to manage the provision of services in the loading/unloading, staging and securing of commercial cargo. Through the use of technologies such as GPS, they should also be able to obtain real-time information on cargo trailer location to eliminate threat to cargo security.

(4) In-flight Catering Services

On completion of the training, trainees should be able to manage the proper and timely supply and removal of in-flight catering meals for an aircraft. They should also be able to deploy the necessary technologies to automate and control key processes for meal planning, equipment handling, caterer management and galley planning.

(5) Aircraft Aesthetic

On completion of the training, trainees should be able to manage and uphold the visual aesthetic of both the interior and exterior of the aircraft. They should also be able to deploy the necessary technologies to improve the process in managing the aesthetic of the aircraft.

(6) Technical Ramp Services

On completion of the training, trainees should be able to manage the technical ramp activities in compliance with airlines' service standards and determine special handling requirements of incoming aircraft. They should also be able to deploy technologies in the servicing of aircrafts in accordance to airline requirements.

(7) Team Management

On completion of this training, trainees should be able to plan for resource and lead the team in resolving conflicts, manage group dynamics, effect teamwork, and apply the power of influence for a more effective and efficient organization.

(8) Company Project

On completion of the training, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.

(9) On-the-Job Training

Aviation training centres work with ground handling companies and provide them with training and consultations to help increase the quality of their staff. Also, such training centers provide suggestions to companies staff how to offer better, more efficient services for airlines. It is helpful for companies to learn more about their shortages in performance. In ground handling, where the quality of services is based on human performance, the key aspects of developing high quality are to adopt the training which is approved by the industry in line with a strictly controlled quality. On completion of the training, trainees should be able to apply the skills and knowledge acquired at the College and workplace to take on the full job scope, including supervisory function where appropriate, at the company.

On-the-job (OJT) training is very important in ground handling and provides hourly theory and practical training to ground handling staff entering the field. OJT is conducted once a year or every six months and OJT is essential for ground services as it is only

allowed to operate on the ground if it can be verified by the internal audit and external audit.

2.8   Previous Studies

Iswahyudi, et al (2019) from the University of Negeri Surabaya, conducted research "Influence of Graduation Quality and Flight Training as a Vocational School on International Standard Job Opportunities. This study was to analyze the influence of graduate quality and flight training on international standardized job opportunities in the Civil Aviation Safety and Engineering Academy of Surabaya. This research with a quantitative approach involved 75 graduates at the Civil Aviation Safety and Engineering Academy of Surabaya. Data collection in this study was collected through a questionnaire. The data analysis technique used was SEM analysis with the PLS program. This result indicated that graduates' quality and flight training as vocational training had a significant and positive impact on international standard job opportunities in the Civil Aviation Safety and Engineering Academy of Surabaya.

Another study investigated by Uchronski, 2020 was "Analysis of the Operation of the Ground Handling Agent in the Aspect of Safety". It was described by methods such as SHELL and BowTie, which propose solutions to minimize the risk of occurrence of aviation events. This study presented the development of these concepts by introducing the method of testing the predisposition of airport staff using a specialized system which is the Polipsychograph - a system dedicated to designing and carrying out psychological tasks testing human mental, cognitive, and motor skills in connection with the assessment of his professional capabilities. This study contained the results of 40 tests performed on employees dealing with airport ground handling daily. Research had shown that the employee's predisposition depends on the quality of work entrusted to him. The paper presented a method of assessing the psychophysical predisposition of an employee allowing him to be directed to work corresponding to his qualifications.

Aung Thu (2018) conducted a research "A Study on Job Opportunities of Graduates from Myanmar Maritime University" that is relevant to this present research to study job effectiveness in ground handling industry. This research aimed to study job opportunities of graduates from Myanmar Maritime University in the maritime transport industry. The study found that the number of graduates who looked for their own job are still high even though MMU could arrange job

opportunity for graduates. Then maritime industry was a male dominant industry so the job opportunity for female graduate was in low state. It recommended that MMU should make more contact with international and local companies and enterprise in maritime industry for the job opportunity of other graduates.

CHAPTER 3

GROUND HANDLING SERVICES IN CIVIL AVIATION

In this chapter, the Department of Civil Aviation (DCA), Civil Aviation Training Institute (CATI), Myanmar Civil Aviation Requirements (MCARs), AHM 1110 Ground Operations Training Program, Definition of Job Role and Functional Tasks, Ground Handling Services in Myanmar are presented.

3.1   The Department of Civil Aviation (DCA)

Myanmar's Department of Civil Aviation (DCA Myanmar) is the air navigation service provider and government agency responsible for the provision of air traffic services and infrastructure. It provides air navigation services, including air navigation information, aeronautical telecommunication for international and domestic aircraft, in the Yangon Flight Information Region. Provision of Air Navigation Services under DCA, Myanmar currently has 237 ATCOs to operate one Area Control Center, 3 approach control units and 32 aerodrome control towers. DCA, Myanmar also operates and maintains nationwide communication, surveillance, navigation and aeronautical information networks.

The Department of Civil Aviation is headed by the Director General (DG) and is a subordinate organization under the Ministry of Transport (MOT), the Government of the Union of Myanmar.

The Department of Civil Aviation (DCA) is one of the 10 departments and 2 institutes under the Ministry of Transport established by Executive Section of the Republic of the Union of Myanmar Constitution of 2008. The DG is empowered by the Myanmar Aircraft Act 1934 and Myanmar Aircraft Rules 1937 generally for regulating Civil Aviation Activities in Myanmar. The DG, being the head of the DCA, is authorized by the President and Minister of Transport for the purpose. The DG may further delegate the powers vested in him to other DCA officers to fulfill the obligations for effective safety oversight.

Table 3.1 The organization table of the Myanmar DCA

Regulatory Body	
SSOD	Standards and Safety Oversight Division
AWD	Airworthiness Division
FSD	Flight Standards Division
ANSD	Air Navigation Safety Division
ASSD	Aerodrome Standards and Safety Division
ASD	Aviation Security Division
Service Providers	
CATI	Civil Aviation Training Institute
YIA	Yangon International Airport
MIA	Mandalay International Airport
AOP	30 Aerodrome Operators
CNSD	Communication, Navigation and Surveillance Division
ATMD	Air Traffic Management Division
AISD	Aeronautical Information Services Division
Supporting Body	
ATD	Legal and Air Transport Division
APD	Administration and Planning Division

Source: Department of Civil Aviation, Myanmar (MDCA) (2018)

3.2 Civil Aviation Training Institute (CATI)

In 1981, by aids of the (BUR/81/004 Civil Aviation Development Project) the Department of Civil Aviation has clearly demonstrated its capacity to absorb external assistant and experts. According to the (MYA/86/003) agreement between the government and UNDP, Civil Aviation Training Center needed to be established to provide basic training in Department of Civil Aviation. It updated the standards as stipulated by ICAO in accordance with the ICAO Annexes to the Convention on International Civil Aviation. CATC was renamed Civil Aviation Training Institute (CATI) in 1997. CATI, all aviation training courses are trained is the training arm of the Department of Civil Aviation of Myanmar (DCA). Up to 2014, CATI has trained over 10386 participants and conducted 541 courses since 1991.

Civil Aviation Training Institute (CATI), Myanmar, under the DCA, the Ministry of Transport and Communications, is responsible for training and developing the aviation human resources and for providing other services related with aviation industry. As it is important to enhance the aviation human resources and the qualified aviation personnel, CATI plays a vital role in the advancement of aviation industry.

It aims to provide the highest quality of training and to share knowledge and experiences of the aviation for the advancement of Myanmar civil aviation. CATI has continued developing curriculums in order to upgrade the training standard, to enhance the capabilities of the aviation personnel to fulfill the increasing demand of the aviation industry.

3.2.1   The courses that are provided by Civil Aviation Training Institute

The Civil Aviation Training Institute has provided the following courses in 2018, 2019 and 2020. See detail Appendix D.

Table (3.2) The Courses Provided by CATI in 2018, 2019 and 2020

Course Year	Name of Course	No. of the Course	No. of the Trainees	The Type of Participant		
				Air Man	Ground Man	Maintenance Engineer
2018	Aviation Security Basic Course	7	301	31	240	30
	Aviation Security Awareness Course	2	67	20	47	-
	Safety Management System (Initial & Recurrent)	25	593	100	380	113
	Dangerous Goods Regulations Course	22	441	-	390	51
	X-ray Machine Screener	1	34	-	34	-
	In-Flight Security Course	11	310	80	200	30
	Flight Dispatcher Recurrent Course	2	43	-	43	-
	Aeronautical Search and Rescue Coordinator Course	1	10	-	10	-

Course Year	Name of Course	No. of the Course	No. of the Trainees	The Type of Participant		
				Air Man	Ground Man	Maintenance Engineer
2018	X-ray Operator Training Course	2	21	-	21	-
	Airside Driving Rules (Apron Driver) Course	5	112	-	112	-
	Aircraft Rescue and Firefighting Refresher Course	3	87	21	50	16
	Airport Cargo Operations Management Course	1	18	-	18	-
	Air Traffic Management/ Air Navigation Services Inspectors Course	-	-	-	-	-
	Aircraft Mass (Weight) and Balance Control Course	4	89	-	89	-
	Basic Ramp Safety Course	-	-	-	-	-
	Airspace Strategy Course	1	10	5	5	-
	Advanced Computer	1	15	-	15	-

Course Year	Name of Course	No. of the Course	No. of the Trainees	The Type of Participant		
				Air Man	Ground Man	Maintenance Engineer
2019	Aviation Security Basic Course	5	155	40	90	25
	Aviation Security Awareness Course	6	146	40	106	-
	Safety Management System (Initial & Recurrent)	8	240	60	120	60

Course Year	Name of Course	No. of the Course	No. of the Trainees	The Type of Participant		
				Air Man	Ground Man	Maintenance Engineer
2019	Dangerous Goods Regulations Course	25	421	-	320	101
	X-ray Machine Screener	8	160	-	160	-
	In-Flight Security Course	17	316	76	190	50
	Flight Dispatcher Recurrent Course	1	23	-	23	-
	Aeronautical Search and Rescue Coordinator Course	1	10	-	10	-
	X-ray Operator Training Course	2	30	-	30	-
	Airside Driving Rules (Apron Driver) Course	10	313	-	313	-
	Aircraft Rescue and Firefighting Refresher Course	2	36	10	16	10
	Airport Cargo Operations Management Course	1	15	-	15	-
	Air Traffic Management/ Air Navigation Services Inspectors Course	1	13	-	13	-
	Aircraft Mass (Weight) and Balance Control Course	1	13	-	13	-
	Basic Ramp Safety Course	2	38	-	38	-
	Airspace Strategy Course	1	10	4	6	-
	Advanced Computer	1	15	-	15	-

Course Year	Name of Course	No. of the Course	No. of the Trainees	The Type of Participant		
				Air Man	Ground Man	Maintenance Engineer
2020	Aviation Security Basic Course	1	31	-	31	-
	Aviation Security Awareness Course	1	22	-	22	-
	Safety Management System (Initial & Recurrent)	12	230	50	150	30
	Dangerous Goods Regulations Course	12	185	-	145	40
	X-ray Machine Screener	-	-	-	-	-
	In-Flight Security Course	8	147	30	90	27
	Flight Dispatcher Recurrent Course	2	40	-	40	-
	Aeronautical Search and Rescue Coordinator Course	-	-	-	-	-
	X-ray Operator Training Course	-	-	-	-	-
	Airside Driving Rules (Apron Driver) Course	3	77	-	77	-
	Aircraft Rescue and Firefighting Refresher Course	5	82	15	55	12
	Airport Cargo Operations Management Course	1	17	-	17	-
	Air Traffic Management/ Air Navigation Services Inspectors Course	-	-	-	-	-
	Aircraft Mass (Weight) and Balance Control Course	3	48	-	48	-

3.3 Myanmar Civil Aviation Requirements (MCARs)

Myanmar Aircraft Act was passed in 1934 as Myanmar Aviation Act. Myanmar Aircraft Rules were passed as Myanmar Aviation Regulations in 1937. As Myanmar ratified ICAO conventions, Myanmar is bound to follow ICAO Annexes. Myanmar Civil Aviation Requirements (MCARs) are made based on the facts in ICAO Annexes. Since Myanmar is not fully qualified to create own requirements, EASA requirements for MCAR Parts are adapted to comply with traditions in our country and IATA Airport Handling Manual and IATA Ground Operation Manual for ground handling services have been used depending on the time and circumstances of the situations.

3.3.1 MCAR PART 1 Air Operator Certification and Administration

MCAR Part - 1 of Air Operator Certification and Administration sets forth the requirements for persons or entities to be granted an AOC certification from Myanmar. This part includes requirements concerning the AOC certificate, flight operations management, maintenance requirements, security management, and dangerous goods management and shipping.

In implementing standards there is a framework for a Safety Management System (SMS). This specifies the framework for the implementation and maintenance of an SMS. The framework comprises four components and twelve elements as the minimum requirements for SMS implementation:

1. Safety policy and objectives
   (a) Management commitment and responsibility
   (b) Safety accountabilities
   (c) Appointment of key safety personnel
   (d) Coordination of emergency response planning
   (e) SMS documentation
2. Safety risk management
   (a) Hazard identification
   (b) Safety risk assessment and mitigation

3. Safety assurance

    (a) Safety performance monitoring and measurement

    (b) The management of change

    (c) Continuous improvement of the SMS

4. Safety promotion

    (a) Training and education

    (b) Safety communication

In ground handling arrangements and procedures, the fuelling procedures are included safety precautions during refueling and defueling including when an APU is in operation or when a turbine engine is running and, if applicable, the propeller brakes are on; refueling and defueling when passengers are embarking, on board or disembarking; precautions to be taken to avoid mixing fuels; and method to ensure the required amount of fuel is loaded.

In aircraft, passengers, and cargo handling procedures related to safety, a description of the handling procedures is used when allocating seats and embarking and disembarking passengers and when loading and unloading the aircraft. Further procedures, aimed at achieving safety whilst the aircraft is on the ramp, shall also be given. Handling procedures shall include: sick passengers and persons with reduced mobility; permissible size and weight of hand baggage; loading and securing of items in the aircraft; special loads and classification of load compartments (i.e., dangerous goods, live animals, etc.); positioning of ground equipment; operation of aircraft doors; safety on the ramp, including fire prevention, blast and suction areas; start-up, ramp departure and arrival procedures; servicing of aircraft; documents and forms; multiple occupancies of aircraft seats.

In the procedures for the refusal of embarkation, procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of alcohol or drugs, except medical patients under proper care, are refused embarkation.

In deicing and anti-icing on the ground, there are instructions for the conduct and control of ground de-icing/anti-icing operations. It is a description of the deicing and anti-icing policy and procedures for aircraft on the ground. These shall include descriptions of the types and effects of icing and other contaminants on aircraft while stationary, during ground movements and during

take-off. In addition, a description of the fluid types used shall be given including: proprietary or commercial names; characteristics; effects on aircraft performance; and precautions during usage.

In handling of accidents and occurrences there are procedures for the handling, notifying and reporting of accidents and occurrences. This section shall include: definitions of accidents and occurrences and the relevant responsibilities of all persons involved; the descriptions of which company departments, Authorities or other institutions have to be notified by which means and in which sequence in case of an accident; special notification requirements in the event of an accident or occurrence when dangerous goods are being carried; a description of the requirements to report specific occurrences and accidents; the forms used for reporting and the procedure for submitting them to the Authority shall also be included; and if the AOC holder develops additional safety related reporting procedures for its own internal use, a description of the applicability and related forms to be used: procedures for pilots-in-command observing an accident.

3.3.2 AHM 1110 Ground Operations Training Program

This section provides a basic understanding to operators and ground handlers on how to develop the training program necessary to perform ground operational functions safely and efficiently.

The training program includes training modules for the primary operational functions as defined in the IATA Ground Operations Manual (IGOM), however some specific training requirements already published in AHM were taken into account. It is important to note that this guidance does not represent a complete training program for all the ground operations functions which may exist. The managerial and/ or non-operational functions are out of scope.

The training program has been developed based on procedures and best practices described in the IATA Ground Operations Manual (IGOM), the Airport Handling Manual (AHM), as well the ISAGO Standards and Recommended Practices.

Any additional training modules, topics within the scope of ground operations that are not covered in this section should be added according to the company's scope of operation, national and airport regulatory requirements and customer airline specifics. In view of the above and dependent on industry feedback received, this training program will be further updated and developed.

Personnel who perform operationally critical functions are required to acquire and maintain competence on the basis of continuing education and training.

The objective of training is to enable learning to take place, for the retention and utilization of the learning to be assessed against a required standard which has to be met and to ensure that personnel can perform their duties in a competent and safe manner.

3.4   Training Program Components

A training program should specify the qualification requirements for each job task/function within the scope of the company's activities. As a minimum the training program should address:

(a) Initial and Continuing Qualification - including training frequency:

    (1) Initial Training

    (2) Recurrent Training;

    (3) Re-qualification Training, as applicable);

    (4) Update Training, as applicable)

    (5) Other specialized training requirements, including those required by equipment manufacture/suppliers, system developers/suppliers, the customer airline(s) or by the regulatory/legal authorities, as applicable);

(b) Training methods

(c) Testing and evaluation processes

(d) Management of the training documentation and records

(e) Qualification and competency requirements for instructors and evaluators

(f) Training Modules

The training program should be reviewed at least once a year, or more frequently as required, to ensure that:

(a) The training program and modules meet current expected needs;

(b) All training material and training plans are up-to-date and meet the customer airline(s) and regulatory requirements, as applicable.

3.4.1 Training Methods

Training should be a combination of theoretical (information and instruction relating to the topic being trained) and practical skills training to verify the students' understanding of, and ability to successfully complete, the task being trained.

(a) Classroom Training

Classroom training is recommended for initial training. Classroom training may also be used in conjunction with computer-based training.

(b) Computer-based Training

Computer-based training is recognized as an effective tool to provide the required training across widespread locations.

(c) Video Training

Video training may be used as a supporting tool for other training methods. However, video training is not sufficient without a formal testing/evaluation process.

(d) Practical Training or On-the-Job Training

In addition to classroom training, include practical hands-on/on-the-job training to ensure competency in all training objectives (as applicable). All practical hands-on/on-the-job training shall be documented using a formal written testing/evaluation process (checklists).

3.5 Definition of Job Role and Functional Tasks

All personnel who conduct ground handling operations shall have full initial and recurrent training modules successfully completed and current as per their functional tasks.

Each company is responsible for defining the job roles and associated functional tasks according to the company's needs, for example "an engine start" task may be performed by different job functions e.g Ramp Agent, Push-back Driver, or other.

Training modules shall be based on providing competencies in functional tasks which can then be grouped to match certain job roles as determined by the company to meet its scope of operations.

Since the responsibilities assigned to the various job roles (e.g ramp agent) may differ from one company to the next, or even within the same company but at different locations, the functional tasks that employees are assigned to perform will determine which training modules they are required to complete.

3.6   Ground Handling Services in Myanmar

Ground handling services and other support services are provided by Myanmar National Airlines in Myanmar. MNA's mission is to have a world class customer service and safety culture. Standardized processes are in place to ensure all MNA colleagues remain focused on the customer service and safety culture at all times. All colleagues will hold each other accountable to follow and embrace the MNA Mission.

Myanmar National Airlines provides 24 hours 7 days support services for all 27 domestic airports. Support includes Ramp services, Passenger services, Airport lounge support, Meet and Greet support, Load control & operations services, Catering arrangements, Fueling arrangements, Cargo support, Private aviation arrangements, and Charter services.

CHAPTER 4
SURVEY ANALYSIS

4.1   Survey Profile

The survey area is Yangon International Airport which was officially opened as a high-performance airport on 12 March 2016 with the aims to improve the national economy through the tourism sector, to increase job effectiveness and income of local people, and to develop the local economy and social status. The airport is located in <u>Mingaladon</u>,15 kilometers (9.3 mi) north of central <u>Yangon</u>. All ten Myanmar <u>carriers</u> and about 30 international airlines operate at Yangon International Airport. The airport is also colloquially known as Mingaladon Airport due to its location.

4.2   Survey Design

In this study descriptive method was used in determining whether there is awareness about ground handling industry. A convenience sampling method was used to select the respondents. The survey questions were well-prepared questions. The number of respondents who were asked to answer survey questions was 142 respondents who are the employees of ground handling departments of two airlines - Air KBZ and Myanmar National Airline. After collecting data from 142 respondents from two airlines through sample survey, descriptive analysis has been used to analyze data. Key informant interviews were administered by phone and in person also made to the responsible persons of Myanmar Civil Aviation Training Institute and respective persons from two airlines to get the required information.

4.3   Survey Results

To achieve the aim and objectives of this study, an extensive study was carried out at the Yangon International Airport. This chapter, therefore, presents analyzed results of the research conducted on 142 respondents from two airlines. The analyzed data of the survey questionnaire is presented in tables in frequencies and percentages and the results of the interviews with relevant persons are reviewed and the results obtained are listed.

4.3.1 Demographic Profile of Respondents

In this study, survey information on the basic characteristics of the respondents is essential for the interpretation of the findings presented in this chapter. The specific characteristics of these respondents are presented in the presentations and discussions that follow.

Table (4.1) Demographic Profile of Respondents in Airlines

Sr. No	Particular	Number	Percentage
1	**Gender** Male Female	 102 40	 71.83 28.17
	Total	142	100
2	**Age** 21 – 30 31 - 40 41 - 50 Above 50	 42 64 26 10	 29.58 45.07 18.30 7.04
	Total	142	100
3	**Type of department where respondents works at** GSE(Ground Support Equipment) maintenance Passenger service Airport Cargo Operation Traffic Control Ground Operation Ground Handling(Safety) Airline Security Flight Operation Fueling Training Aircraft rescue and firefighting	 10 14 12 16 36 8 14 10 6 10 6	 14.08 19.71 16.90 22.53 50.70 11.26 19.71 14.08 8.45 14.08 5.45
	Total	142	100

4	**The minimum education requirement of this job**		
	Up to 8 years of education	6	4.22
	9 to 11 years of education	2	1.40
	High School Diploma	16	11.26
	Vocational/ Technical / Business School	2	1.40
	Some College Associate's Degree	16	11.26
	Bachelor's Degree	90	63.38
	Master's Degree	10	7.04
	Doctorate Degree	-	-
	Total	142	100
5	**Years of experience**		
	1 year or less	4	2.81
	More than 1 year up to 3 years	30	21.12
	More than 3 years up to 5 years	46	32.39
	More than 3 years up to 10 years	26	18.30
	More than 10 years	36	25.35
	Total	142	100

The demographic characteristics of 142 respondents were presented in Table (4.1). 71.83% of respondents were male and 28.17% was female. This brings to focus the gender issues as far as the kinds of job taken up by the different genders in airlines. From the findings, 102 respondents were male. This fact describes that only male can perform well in ground handling industry because male are physically strong and ground handling activities are needed more male capabilities.

Among the respondents, the majority 64 respondents can be seen in (31-40) age group. This was followed by the age group of between 21 and 30 (42 respondents). And the least age groups (41-50) and above 50 were 26 and 10 respondents respectively.

Pertaining to the department where the respondents work, 10 respondents were from GSE(Ground Support Equipment) maintenance, 14 respondents from passenger service, 12 respondents from airport cargo operation, 16 respondents from traffic control, 36 respondents from ground operation, 8 respondents from ground handling(safety), 14 respondents from airline security, 10 respondents from flight operation, 6 respondents from fueling, 10 respondents from training, and 6 respondents from aircraft rescue and firefighting respectively.

According to survey data, 90 respondents were Bachelor's Degree, Some College Associate's Degree and High School Diploma were 16 respondents respectively for each group. Master's Degree were 10 respondents, Up to 8 years of education were 6 respondents, both 9 to

11 years of education and Vocational/ Technical / Business School were two respondents respectively.

The respondents' years of experience in ground handling industry were analyzed. Majority 32.39% of the core respondents were more than 3 years up to 5 years of experience. Respondents 25.35% have more than 10 years of experience and 21.12% respondents have more than 1 year to 3 years of experience. And experiences of 18.30% respondents were more than 3 years up to 10 years. Only 2.81% respondents were experiences of 1 years or less than.

4.3.2 Requirement Information for Ground Handling

The information about ground handling requirement is described in the following table.

Table (4.2) Requirement Information for Ground Handling

Sr. No	Particular	Number	Percentage
1	**Are there any special certifications, licenses or accreditations that are required for your position?**		
	No licenses, certification or accreditation required for this position.	32	22.54
	Licenses, certification or accreditation required.	110	77.46
	Total	142	100
2	**Describe the name school or institute you attend for this ground handling.**		
	CATI	112	78.87
	Others	30	21.13
	Total	142	100

Table (4.2) shows about the information of the requirement in ground handling industry. Among the respondents, 110 respondents well knew that licenses, certification or accreditation required and only 32 respondents replied that licenses, certification or accreditation were not required for this position. Most 78.87% respondents attended the Civil Aviation Training Institute (CATI) and 21.13% respondents from other universities or schools.

4.3.3 Training, Opportunities, Skills and Abilities for Ground Handling

In Table (4.3) the required training, necessary skills and abilities and opportunities are described.

Table (4.3) Training, Opportunities, Skills and Abilities for Ground Handling

Sr. No	Particular	Yes
1	Does your position require any additional training or specific experience to perform the essential function?	126 88.73 %
2	Does your company offer adequate opportunities for promotions and career development?	118 83.1 %
3	Do you feel like your job utilizes your skills and abilities as much as it could?	88 61.97 %
4	Does your organization have regular training for each department concerning with ground handling?	136 95.77 %
5	Does your organization have the update and recurrent training for ground handling?	126 88.73 %

As shown in the above Table 4.3, 88.73 % respondents indicated that their position required additional training or specific experience to perform the essential function whereas 11.27% did not require additional training. Respondents 83.1 % described that their company offered adequate opportunities for promotions and career development while 16.9 % respondents did not get adequate opportunities for that. Concerning with the skills and abilities 61.97 % respondents felt that their job utilized their skills and abilities as much as it could and 38.03 % respondents did not feel like that. 95.77 % respondents answered that their organization had regular training for each department concerning with ground handling whereas the answer of 4.23 % respondents was that their organization did not have regular training. 88.73 % respondents stated that their organization had the update and recurrent training for ground handling whereas 11.27 % respondents did not.

4.3.4 Having Recurrent Training

In Table (4.4) the having recurrent training to the employees from airlines are stated.

Table (4.4) Having Recurrent Training

Sr. No	Particular	Number	Percentage
1	**How often does your organization have the update and recurrent training?** Within 1 year Within 2 years 3 years and above	58 66 18	40.84 46.48 12.68
	Total	142	100

The above table represents how many times of training are given to the ground handling employees. 46.48% respondents had the update and recurrent training every two year. 28.16% had got training every 1 year whereas 12.68% respondents had training less than 1 year and the last 12.68% had got training 3 years and above.

4.3.5 Job Satisfaction

To identify the facts concerning with job satisfaction of employees in ground handling industry as in the Table (4.5) the study conducted the questionnaire survey to the respondents for which the questionnaire is designed with 5-point Likert scales. The 5-point Likert scale has a value range 1 to 5 with "1 = very dissatisfied" and "5= very satisfied" for each question. The mean score from 1 to 1.80 indicates "very dissatisfied", from 1.81 to 2.60 "somewhat dissatisfied", from 2.61 to 3.40 "neutral", from 3.41 to 4.20 "somewhat satisfied" and from 4.21 to 5.00 "very satisfied" respectively.

Table (4.5) Job Satisfaction

No.	Description	Mean	Standard Deviation
1	Salary	3.66	.922
2	Benefits	3.76	.850
3	Frequency and amount of bonuses	2.85	.740
4	Workload	3.31	.793
5	Flexibility of work hours	3.29	.702
6	Physical working environment	3.71	.894
7	Opportunity for advancement	3.60	.816
8	Job security	4.12	.906
	Overall Mean	3.54	

From the above Table (4.5), the highest mean score is about the job security in working environment in ground handling industry. This fact shows that the company or organization can create safety environment for their ground handling employees.

However, the mean scores of frequency and amount of bonuses and workload indicates that there are respondents who express their satisfaction as neutral indicating neither dissatisfaction nor satisfaction. It can be seen that bonuses should be given to ground handling employees by observing their performance in working condition.

4.3.6 The Effect of Courses from MCATI on Ground Handling

In Table (4.6) the effect of courses provided by MCTAI on ground handling activities is depicted. The study conducted the questionnaire survey to the respondents for which the questionnaire is designed with 5-point Likert scales to identify the effect of courses. The 5-point Likert scale has a value range 1 to 5 with "1 = strongly disagree" and "5= strongly agree" for each question. The mean score from 1 to 1.80 indicates "strongly disagree", from 1.81 to 2.60 "disagree", from 2.61 to 3.40 "neutral", from 3.41 to 4.20 "agree" and from 4.21 to 5.00 "strongly agree" respectively.

Table (4.6) The Effect of Courses from MCATI on Ground Handling

No.	Description	Mean	Standard Deviation
1	The courses at MCATI were beneficial.	4.25	.668
2	I obtained valuable skills in the courses.	4.14	.740
3	I obtained valuable life skills (i.e. teamwork, punctuality, quality of work, etc.) from the courses.	4.11	.685
4	The courses at MCATI provided skills necessary for ground handling.	4.14	.700
5	My current job relates to the courses I took at Aviation Training Institute.	4.15	.747
6	The courses provided by MCATI had a positive effect on my job at this ground handling department.	4.12	.771
7	The classes kept me motivated to work at this industry.	3.81	.659
8	The courses at MCATI contributed to my ultimate job satisfaction in this industry.	3.77	.678
9	It is my recommendation that all the ones who want to get a job at the airport should take the courses at MCATI.	4.32	.855
	Overall Mean	4.09	

The above table gives a brief overview of level of agreement on the effect of courses provided by MCTAI for ground handling industry. In the view of agreement, most of the respondents agreed with the facts that obtaining valuable skills and valuable life skills such as teamwork, punctuality from the courses, providing necessary skills for ground handling, current job relating to the courses at Aviation Training Institute, having a positive effect on the job at ground handling department, getting motivation to work at this industry, contributing ultimate job satisfaction in this industry. The highest mean score states that most respondents recommend that

the ones who want to get a job in ground handling industry at the airport should take the courses at MCATI and they reinforce that the courses provided by MCATI were beneficial.

4.3.7 Key Informant Interview of Job opportunities in Ground Handling Industry of Aviation Industry

A key informant interview is conducted to obtain vital information about job opportunities in ground handling industry to provide opinions and perspectives of the key respondents. In this study, key informant interviews are qualitative in depth interviews with 6 persons, 3 main responsible persons from CATI and one from Yangon Aerodrome Company Limited, and one from KBZ Airline who is Manager for Quality Safety Department and one from MNA airline who is Manager for Training, Ground Operation Training Manager. The compilations of the findings of 6 key informant interviews are shown as follows. The questions of face-to-face key informant interview are stated in Appendix (F).

Part (A) – Notes on answers by Principal of CATI

USOAP audited Myanmar Aviation Industry in 2008. DCA approved CATI as an approved training organization provided courses in accordance with international standard implementing future missions. The mission of CATI is to join with IATA in providing courses to get job opportunities in international aviation industry for Myanmar employees in airlines. Training programs have been designed systematically to provide required international courses for employees in aviation industry. The courses provided from CATI for employees from respective departments to keep in line with international standards are ATPL, CPL courses for pilots, air traffic controller courses for air traffic control staffs, CNS courses, cabin crew courses, airport/ air line security courses, in-flight security courses, dangerous goods regulation courses for cargo, safety courses, fire fighting courses. There are two parts of courses provided to the ones who are employed and non-employed. The ones who are employed have to attend the courses in two stages: first initial courses and the second recurrent courses. The ones who are not employed have to attend very first initial courses and then when they apply to airlines they can get a job easily. The instructors from CATI have been sent to the training courses offered by international aviation training institute as necessary to provide courses in international standards. As employees in aviation industry, the attended employees who got knowledgeable experiences from those instructors can perform their job roles successfully after those courses. The courses provided by

CATI become opportunities for employees in their respective airlines and ground handling services to perform their tasks without difficulties in their industry. To implement those tasks successfully required courses are prepared and are designed. CATI is a main institute which produces pilots, co-pilots and cabin crew constantly as it is an aviation training institute for the whole aviation industry in Myanmar. And it has produced 80% of students in Myanmar aviation industry. As there is a future prospect at CATI, it will continue opening of joint-education courses with IATA courses. Training plans have been developed for the relevant staff of various airlines and ground services. The MCATI offers a wide range of courses that are open to the public on a regular basis, and to these days the courses are offered as an opportunity to be able to carry out responsibilities in the workplace without difficulty. To upgrade communication navigation surveillance (CNS) for the staffs from the department of air transport development, CATI cooperated with Japan International Cooperation Agency (JICA) from 2014 to 2018 (4-year plan) by giving lectures from experienced skillful technicians. CATI has provided airport security courses for airlines and aviation companies.

Part (B) – Notes on answers by Deputy Principal of CATI

It is the only ISO-certified, IATA-certified school in Myanmar that can issue airport ground licenses and provide airport ground support training. The courses are conducted in accordance with the IATA Guidance and are conducted by the DCA and are conducted in accordance with the requirements of the airlines operating the airport services and the school's regular opening schedule. Not only employees at Yangon International Airport, but also employees at Mandalay Airport attend airport service-related trainings in accordance with the wishes of the companies that employ them. Only then their job opportunities will be greatly enhanced. It is unknown at this time what he will do after leaving the post. As the school is ISO-certified, it can be inspected annually in accordance with IATA guidelines, and the course is taught according to the IATA curriculum.

Part (C) –Notes on answers by Assistant Director for Training at CATI

The training schedule is submitted to DCA and the training schedule from the respective airline companies is arranged according to the wishes of the various airlines. Certificates are issued for all courses. Some courses even offer the opportunity to obtain a license that IATA recognizes for a related business. We have to answer in two parts. In the beginning, our school provided some airport services, aviation, air traffic control is guaranteed for job opportunities of those who are not employees. In the second part, all the other courses are for employees from airlines after getting the job. Those who have attended may have more guarantees on their current job than those who have not. The number may be limited depending on the type of training, but some courses may be offered once a year.

Part (D) – Notes on answers by Safety Manager for Yangon Aerodrome Company Limited

YACL is responsible for the security of the airport such as safety, airport building renovation; airport check-in and check-out. It is responsible for handling all international airlines. There are more than 700 employees in total. Those employees are sent to the relevant training courses opened by CATI as YACL program or their own program according to the relevant business. It is not a job after training. However, since the courses offered by CATI are accredited by IATA to support airport management, YACL, an airport management company, can guarantee its employees' employment opportunities if they receive a CATI certification to ensure that their employees comply with IATA guidelines for airport management in accordance with IATA guidelines. Examples include In-Flight Security Course, X-ray Operating Course, Aviation Security Course, Safety Management System Course, Dangerous Goods Regulations Recurrent Category 12 Course. These courses are mandatory for those who are employed under the IATA Regulation. It is not just a matter of getting a job after completing the training, but only if the person who got the job attends these courses will their job opportunities be sustainable. It can provide international job opportunities. There are some who work at YACL and get jobs at international-airports.

Part (E) – Notes on answers by Manager for Quality Safety Department of KBZ Air   Line and Manager for Ground Operation Department of Myanmar National Airline (MNA)

Our KBZ airline operates a variety of airport operations with approximately 200 employees. When we hire, there are people who have never worked for airlines, and there are people who have moved from other airlines. It is also important to attach a certificate of attendance with CV before making such an appointment. This will save time and money. For example, CATI is a training certification. Everyone who works for airlines needs to be aware of safety awareness. Therefore, after hiring in the department, the company has to provide detailed training related to various industries within the department. As it is asked in the question, training is provided within the department, but in order to have over view awareness, CATI training is a must. If they want to move to other airlines, CATI certified holders will have a better chance of getting a job for them. We know that not only our airline but also the staff of other airlines today are working at international airports with CATI certificates. For example, the airports are Dubai Airport; Changi Airport, the airlines are included Singapore Airlines, ANA Airlines, Emirates Airlines. It is undeniable that CATI will be important to the aviation industry as a whole.

MNA airline operates a variety of airport operations with approximately 800 employees. When we hire, there are people who have never worked for airlines, and some have moved from other airlines. It is needed to attach a certificate of attendance with CV in applying for a job in aviation industry such as a training certification from CATI. Everyone who works for airlines requires safety Awareness. Therefore, after hiring in the department, employees are provided detailed training related to various industries within the department. To have awareness in aviation industry, CATI training is necessary. If they want to move to other airlines, CATI Certified holders will have a better chance of getting a job. Graduates of CATI courses are helping their career opportunities because of the certification they got. In addition, it is important to note that as soon as we enter the aviation industry, each aviation industry provides training in detail for their business, but the main focus is on CATI courses that really support their job effectiveness.

CHAPTER 5
CONCLUSION

This chapter provides the conclusion and recommendations drawn from the findings to explain the current condition of ground handling industry.

5.1   Findings

This study was to identify the training courses provided by Myanmar Civil Aviation Training Institute and to analyze the job opportunities of certificate holders from MCATI in civil aviation. In this study, it was found that most respondents were male which indicating ground handling activities provided by men and there were few female staffs who were working in departments of ground handling.

In this study, it was found that the fact that the most age group (31-40) was 45.07%. It showed that young people who can actively participate in ground handling procedures are needed most in this ground handling industry. This fact is reinforced by the fact of the age group between 21 and 30 (42 respondents).

The fact that most respondents were from ground operation represented there might be more needed ground handling employees in this industry. It can be understood that there are more opportunities to get a job in ground handling departments of airlines. Other respondents were from GSE maintenance, passenger service, cargo operation, traffic control, ground handling (safety), airline security, flight operation, fueling, training and aircraft rescue and firefighting departments. This fact indicated that there is more job effectiveness in ground handling industry.

As the level of education, most of the respondents got Bachelor's Degree but the least were vocational school. The fact that employees are graduated people is the sign of development in ground handling industry, but it can be assumed that some of the employees in this industry should be upgraded to graduate level from vocational school level and the post graduate level.

In the aspect of respondents' ground handling experience years, most of the respondents have experience years between 3 and 10 years. It can be said that such kind of experiences should have at least in this field.

The study found out the requirements of licenses, certification or accreditation that are needed for the position in ground handling industry. Most respondents well knew that licenses,

certification or accreditation are required for their job in ground handling. Only few respondents did not know that requirements were needed. This fact suggests that the approved qualifications are required for ground handling industry.

It was found out in this study that what kind of universities or vocational school the respondents attended. Most 78.87% respondents attended the Civil Aviation Training Institute (CATI) and 21.13% respondents from other universities or schools. It can be understood that the ground handling activities are required many graduates from MCATI. In other words, all graduates from MCATI would get a job in aviation industry anyway.

Most respondents expressed their opinion that additional training or specific experience was required to perform the essential function for their position whereas very few respondents responded that they did not require additional training. It expressed that very few respondents did not have the awareness in this part.

The study found out whether the airline company offered adequate opportunities for the respondents. Most respondents 83.1 % described that their company offered adequate opportunities for promotions and career development while 16.9 % respondents did not get adequate opportunities for that. This indicated that the company offered opportunities for the promotions and career development of the respondents as their status.

Concerning with the skills and abilities the study found out. Respondents 61.97 % expressed that they had to utilize their skills and abilities as much as it could in this ground handling industry while 38.03% respondents did not express like that. It can be assumed that the respondents have to apply their skills and abilities that they get from the courses of MCATI.

The study found out whether the organization of the respondent offered regular training and update and recurrent training. 95.77 % respondents responded that their organization had regular training for each department concerning with ground handling whereas 4.23 % respondents replied that their organization did not have regular training. Then, 88.73 % respondents stated that their organization had the update and recurrent training for ground handling while 11.27 % respondents did not. This represented that the company or organization of the respondents gave regular training and update and recurrent training as necessary.

The study found out how many times of training given to the ground handling employees. Most respondents 46.48% were given the update and recurrent training every two year. 28.16% had got training every 1 year whereas 12.68% respondents had training less than 1 year and the

last 12.68% had got training 3 years and above. According to this fact, it can be supposed that employees from ground handling industry are given training in necessary times.

Then the study found out the level of satisfaction on job from the respondents in ground handling. Most of the respondents very satisfied with the job security in working environment in ground handling industry. The mean scores of frequency and amount of bonuses and workload states that there are respondents who show their satisfaction as neutral. It can be concluded that bonuses should be given to ground handling employees by observing their performance in working condition.

The level of agreement on the effect of courses provided by MCATI for ground handling industry was found out in this study. Most of the respondents agreed with the facts that obtaining valuable skills and valuable life skills such as teamwork, punctuality from the courses, providing necessary skills for ground handling, current job relating to the courses at Aviation Training Institute, having a positive effect on the job at ground handling department, getting motivation to work at this industry and contributing ultimate job satisfaction in this industry. Then the highest mean score demonstrates that respondents recommend that the ones who want to get a job at the airport should take the courses at MCATI. After that the respondents added that courses provided by MCATI were beneficial.

5.2   Recommendations

From the study findings and the conclusion made, the following recommendations are put forward for the improvement of ground handling industry. From the study findings, most respondents well knew that licenses, certification or accreditations were required for their ground handling job. It recommends that all employees should have awareness on their licensed qualification for their job since few respondents did not know that requirements were needed.

Most of the respondents fulfilled their qualification at MCATI. This fact implies that there are more job effectiveness for the attendees who join the courses provided by MCATI. Since there were few respondents who did not have awareness about additional training to perform the essential function for their position, there should be more awareness activities offered by their companies for their job.

As most respondents got adequate opportunities for promotions and career development while few respondents did not get adequate opportunities for that. For this fact, the ground handling

company should offer opportunities for the promotions and career development of the respondents according to their responsibilities and their rank.

Most respondents had utilized their skills and abilities provided by MCATI. It can be assumed that MCATI creates more job effectiveness for the employees who join the courses since the skills provided at the courses have been well applied.

Since the organization of the respondents offered regular training and update and recurrent training, respondents became more confident and got more skills and became reliable in their job.

Employees from ground handling industry are given training in necessary times. This fact recommends that employees from ground handling could not be dismissed since they have got enough training concerning with accidents and incidents in ground handling.

Most of the respondents satisfied with their salary, benefits, opportunities for advancement and job security because salary was given in dollar without giving bonuses and there were opportunities because of more given training besides there were police security and Airport Handling Manual for ground handling procedures.

Most of the respondents responded that the courses at MCATI were beneficial, obtaining valuable skills and valuable life skills such as teamwork, punctuality from the courses, providing necessary skills for ground handling because MCATI followed Airport Handling Manual when providing the courses.

If there is much population using airline, there may be more opportunities for ground handling employees. It can be supposed that there will be more opportunities in ground handling if ground handling employees are given international skills to join in international ground handling market.

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APPENDIX (A)

PARTICULARS TO BE INCLUDED IN THE GROUND HANDLING MANUAL

(1) Organization's Administration

1. Legal status of the organization.
2. Organizational chart.
3. Duties, responsibilities, and reporting structure of all management and operations personnel.

(2) Description of the Ground Handling Operation

1. Scope of ground handling services.
2. Capability statements, including aircraft types.
3. Facilities and equipment available.

(3) Safety Management System AHM 610

1. Safety policy statement.
2. Purpose of the safety management system.
3. Applicability.
4. Safety responsibilities.
5. Safety training program.
6. Safety promotion
7. Standard operating procedures.
8. Human factors.
9. Risk management.
10. Audits and inspections.
11. Safety performance monitoring.
12. Emergency response.

(4) Ground Handling of Dangerous Goods

1. Dangerous Goods policy statement.
2. Packing, labeling, and marking.
3. Ground handing organization's responsibilities.
4. Provision of information.
5. Establishment of training programs.
6. Compliance with IATA Dangerous Goods Regulations current edition, and JCAR OPS1.

(5) Ground Handling Procedures (as applicable)

1. Passenger handling AHM 100 – 199
2. Baggage handling AHM 200 – 299
3. Cargo/mail handling AHM 300 – 399
4. Aircraft handling and loading AHM 400 – 499
5. Load control AHM 500 – 599
6. Airside safety and management AHM 600 – 699
7. Aircraft movement control AHM 700 – 799
8. Ground handling agreements AHM 800 – 899
9. Ground support equipment AHM 900 – 999

(6) Ground Handling Quality Audit Schedule AHM 060

(7) Airside Safety Performance Audit Schedule AHM 612

APPENDIX (B)

HANDLING OF DANGEROUS GOODS TRAINING

(1) Scope of the Training

Ground Handling Personnel who are not trained may handle and transport dangerous goods as long as they are doing so under the direct supervision of a trained person. Some employees may only need training in the aspects of the regulations that are directly related to their work. In this situation, it is the Ground Handler's responsibility to determine what constitutes adequate training for their employees. How to train employees is not mentioned in the Regulations. Training may be done through a combination of formal "in-class" training and on-the-job training.

(2) Training for personnel involved in the handling of dangerous goods

Handling Means: Loading, unloading, packing, or unpacking dangerous goods in a means of containment or transport for transportation, and includes storing them in the course of handling for transportation activities. Examples of Personnel Handling Dangerous Goods:
- Cargo Handler
- Apron Worker
- Load/Unload Master
- Receiver/Shipper
- GHO Equipment Operator
- GHO Warehouse personnel

(3) Training Required:

1. Definition of the nine classes of dangerous goods and their associated hazards;
2. Proper shipping names, classes, UN numbers, and packing groups for the dangerous goods that are normally encountered on the job;
3. Safety marks such as labels and placards that are used to identify the different classes of dangerous goods that are normally encountered on the job;
4. Types of placards, labels, signs, numbers, and other safety marks, what they mean, and when and where they should be displayed;
5. Knowledge of the information that must be on a shipping document;

6. How to accept Dangerous Goods shipments from the shipper or freight forwarder;

7. Storing Dangerous goods in cargo warehouse, segregation chart shall be considered;

8. How to transport the Dangerous Goods shipments between the warehouse and aircraft carefully, especially according to the weather conditions, like extremely hot or rainy days;

9. The using of proper tools to secure the Dangerous Goods shipment onboard aircraft, to stop moving during the flight;

10. The requirements regarding mixed loads and the need for segregation of incompatible dangerous goods;

11. What to do if the shipping documents, placards, labels, other safety marks, or means of containment seem inadequate or incorrect;

12. What constitutes an accidental release and the reporting requirements if an accident happens;

13. Proper use of all equipment that is used in the handling of dangerous goods;

14. Dangerous goods requiring Emergency Response Assistance Plans (ERAP);

15. A thorough knowledge of the control and emergency features for all handling equipment used in the day-to-day activities of the job;

16. Safe practices on the loading and stowage of dangerous goods;

17. The proper selection and use of means of containment for the dangerous goods.

APPENDIX (C)

Definitions and Terminology

(a)   Initial Training

Formal training provided to operational personnel before being assigned to new duties, functions, positions, and/or aircraft equipment. Initial training shall include evaluation or testing by written or practical means.

(b)   Recurrent Training

Ongoing training provided to operational personnel at a frequency by requirements of, as applicable, the State, and operator and/or service provider. Recurrent training shall include evaluation or testing by written or practical means.

(c)   Re-qualification Training

Repeat training for performing certain duties and functions in which the operational personnel has previously been trained. This is typically initiated following a series of events or an evaluation that addresses a lack of comprehension of the task to be performed, a prolonged absence from doing the specific tasks or functions, or a prolonged absence from the working environment.

(d)   Update training

Training provided to ensure personnel remain competent and are made aware of any changes to duties, areas of responsibility, or updates to equipment, infrastructure, systems, procedures, or combination of the above.

Such changes shall be communicated to relevant personnel via regular communication channels. Additional information and updated training shall be delivered as necessary.

(e)   Instructor/Trainer

An instructor is a person who imparts knowledge or teaches practical skills through demonstration, direction, tutoring, training, and practical exercises. Instructors may utilize testing, checking, assessment, or evaluation of activities as a means for determining proficiency or competency.

(f)   Evaluator/ On-the-Job-Trainer

A person, who teaches practical skills through the demonstration on-the-job and assesses, examines, or judges the on-job performance of the student. This role is usually performed by operational employees.

(g)   Testing and Evaluation

The process by which an instructor or evaluator determines how well a student's performance fulfills the course competencies. The process may include a demonstration of knowledge, proficiency, and/or competency as appropriate. Evaluation can be done in a written test or practical form.

(h)   Personnel Competence

The company shall have established Training Programs to ensure that all operational personnel can acquire the necessary skills and remain competent to perform their duties.

APPENDIX (D)

The courses that are provided by Civil Aviation Training Institute

The Courses Provided by CATI in 2018

Sr. No.	The Name of the Course	No. of the Course	No. of Students
1	Basic ATC and Aerodrome Control Course	1	28
2	Airspace Strategy Course	1	10
3	Area Control Procedural Course	1	12
4	Safety Management System Training Course	1	10
5	VCSS Specialized Course	1	11
6	VSAT/COMM Specialized Course for Instructor	1	6
7	VSAT-COMM Specialized Course	1	13
8	DVOR/DME Specialized Course	1	10
9	Basic Communication Operation Course	1	4
10	Workshop on ADS/CPDLC for instructors	1	8
11	Basic CNS Course	1	14
12	Advanced Computer Operations Course	1	15
13	Certificate Course in Computer Applications	1	16
14	Familiarization for Aircraft Firefighting Course	3	65
15	Advanced Aircraft Rescue & Firefighting Course	2	44
16	Basic Aircraft Rescue & Firefighting Course	4	92
17	Aircraft Rescue & Firefighting Recurrent Course	3	87
18	Basic Aviation English Course	2	50
19	Airline Transport Pilot License Course	1	23
20	Aviation Security Basic Course	7	301
21	Aviation Security Air Cargo and Mail Orientation Course	2	53
22	Aviation Security Awareness Course for Non-Security Staff	2	67
23	Aviation Security Recurrent Course	2	61
24	X-ray Machine Operator Advance Course	1	34

25	X-ray Operator Training Course	2	21
19	Airline Transport Pilot License Course	1	23
20	Aviation Security Basic Course	7	301
Sr. No.	The Name of the Course	No. of the Course	No. of Students
21	Aviation Security Air Cargo and Mail Orientation Course	2	53
22	Aviation Security Awareness Course for Non-Security Staff	2	67
23	Aviation Security Recurrent Course	2	61
24	X-ray Machine Operator Advance Course	1	34
25	X-ray Operator Training Course	2	21
26	In-Flight Security Course	11	310
27	DG, SMS & Aviation Security Awareness Course	1	30
28	Flight Dispatcher Recurrent Course	2	43
29	Airside Driving Rules (Apron Driver Course)	5	112
30	Dangerous Goods Regulations (DGR)Initial-Category 6	1	9
31	Dangerous Goods Regulations (DGR)Initial-Category 8	1	19
32	Dangerous Goods Regulations (DGR)Initial-Category 12	5	150
33	Dangerous Goods Regulations (DGR)Initial-Category 15	4	96
34	Dangerous Goods Regulations (DGR) Initial-Category 16	8	115
35	Dangerous Goods Regulations (DGR) Initial-Category 17	3	52
36	Crew Resources Management Course	1	12
37	Crew Resources Management Recurrent Course	6	129
38	Safety Management System Initial Course	12	312
39	Safety Management System Recurrent Course	13	281

40	Safety Management System Implement Course	1	25
41	Aircraft Mass (Weight) & Balance Control Course	4	89
42	Airport Cargo Operation Management Course	1	18
43	Ground Handling Basic Training Course	1	14
44	Train the Trainer Course	2	43
Total		**126**	**2914**

The Courses Provided by CATI in 2019

Sr. No.	The Name of the Course	No of the Course	No. of Students
1	Aviation Security Basic Course	5	155
2	Basic ATC and Aerodrome Control Course	1	12
3	Aviation Security Awareness Course (Nan Security Staff)	6	146
4	Aeronautical Search and Rescue Coordinator Coordinator Course	1	10
5	Airside Driving Rules (Apron Driver) Course	10	313
6	Aviation Security Recurrent Course	5	154
7	Basic Communication Engineering Course (Level-1)	1	6
8	Safety Management System Initial Course	8	240
9	Crew Resource Management Recurrent Course	7	94
10	Dangerous Goods Regulations (DGR) Recurrent Category-16	3	21
11	Safety Management System Recurrent Course	11	199
12	Certificate Course in Computer Applications	3	47
13	Certificate X-Ray Machine Screener CBT Recurrent Train the Trainer Course	1	10
14	Dangerous Goods Regulations (DGR) Recurrent Category 17	6	86
15	X-Ray Machine Certified Screener (CBT) Recertification Course	8	160

16	X-Ray Operator Training Course	1	11
17	X-Ray Machine Operator Advanced Course	1	19
18	Orientation Course	1	9
19	Dangerous Goods Regulations (DGR) Recurrent Category 12	9	159
20	Dangerous Goods Regulations (DGR) Initial Category 12	3	62
21	Familiarization for Aircraft Firefighting Course	5	94
22	In-Flight Security Course	17	316

The Courses Provided by CATI in 2019 (Continued)

Sr. No.	The Name of the Course	No of the Course	No. of Students
23	Train Specialized Course	4	80
24	Radar Specialized Course	1	13
25	Aircraft Rescue & Firefighting Refresher Course	2	36
26	Basic English Course	1	39
27	Flight Dispatcher Recurrent Course	1	23
28	Aircraft Rescue and Firefighting Recurrent Course	2	43
29	Aircraft Mass (Weight) and Balance Control Course	1	13
30	VSAT Communication (VSAT/COMM) Specialized Course 1/2019	1	15
31	Dangerous Goods Regulations (DGR) Recurrent Category 15	3	70
32	Airport Cargo Operations Management Course	1	15
33	Basic Ramp Safety Course	2	38
34	Basic Aviation English Course	1	32
35	Approach Control Procedural Rating Course	1	13
36	Dangerous Goods Regulations (DGR) Initial Category 15	1	23

37	Crew Resource Management Initial Course	1	22
38	Basic Communication Engineering Course (Level-2)	1	10
39	Air Traffic Management / Air Navigation Services Inspectors Course	1	13
40	Basic Aircraft Rescue & Firefighting Course	1	20
41	Designated Check Pilot Initial Course	1	12
42	New CNS/ATM System Training Course	1	10
Total		**141**	**2863**

Source: Civil Aviation Training Institute (CATI)

The Courses Provided by CATI in 2020

Sr. No.	The Name of the Course	No. of the Course	No. of Students
1	Safety Management System Initial Course	2	68
2	Safety Management System Recurrent Course	10	162
3	Safety Management System Training Course	2	24
4	Basic ATC and Aerodrome Control Course	1	28
5	Area Control Surveillance Rating Training Course	1	13
6	Personnel Licensing Inspectors Classroom and On-the-Job Training Course	1	19
7	Aviation Security Basic Course	1	31
8	Aviation Security Recurrent Course	1	30
9	Aviation Security National Inspectors Course	1	16
10	Aviation Security Awareness Course	1	22
11	Advanced Aircraft Rescue and Firefighting Course	2	40
12	Aircraft Rescue and Firefighting Recurrent Course	5	82
13	Familiarization for Aircraft Firefighting Course	1	16

14	Dangerous Goods Regulations (DGR) Initial Category 12	1	20
15	Dangerous Goods Regulations (DGR) Initial Category 16	1	12
16	Dangerous Goods Regulations (DGR) Initial Category 15	1	12
17	Dangerous Goods Regulations (DGR) Recurrent Category 17	3	36
18	Aircraft Rescue and Firefighting Leadership (Refresher) Course	1	20
19	Dangerous Goods Regulations (DGR) Recurrent Category 15	3	48
20	Dangerous Goods Regulations (DGR) Recurrent Category 16	2	37

The Courses Provided by CATI in 2020 (Continued)

Sr. No.	The Name of the Course	No. of the Course	No. of Students
21	Train the Trainer Course	1	21
22	Certificate Course in Computer Application	1	12
23	Airside Driving Rules (Apron Driver) Course	3	77
24	Airline Transport Pilot License Course	1	24
25	In-Flight Security Course	8	147
26	Crew Resource Management Recurrent Course	3	65
27	Aircraft Mass (Weight) and Balance Control Recurrent Course	3	48
28	Flight Dispatcher Recurrent Course	2	40
29	Airport Cargo Operations Management Course	1	17
	Total	64	1187

APPENDIX (E)

Survey Questionnaire

Questionnaire for Ground Handling Employees of Airlines

Instructions

1. Please respond to all questions and kindly note that all responses are valued.

2. For questions where there are no options, you are to answer in your own words.

Section A: Background Information and Experiences

(1) Gender

    [ ] Male   [ ] Female

(2) Age

    [ ] 21-30   [ ] 31-40   [ ] 41-50

    [ ] Above50

(3) Name the department at which you currently work. ……………………….

(4) Check the box that best indicates the minimum education requirements of this job.

    ☐ Up to 8 years of education   ☐ Some College/Associate's Degree

    ☐ 9 to 11 years of education   ☐ Bachelor's Degree

    ☐ High School Diploma   ☐ Master's Degree

    ☐ Vocational/Technical/Business School ☐ Doctorate Degree

(5) What number of years of experience related to the current job do you believe is necessary for an employee entering the position?

    ☐ 1 year or less

    ☐ More than 1 year up to 3 years

    ☐ More than 3 years up to 5 years

    ☐ More than 5 years up to 10 years

    ☐ More than 10 years

(6) Are there any special certifications, licenses, or accreditation that are required for your position?

    ☐ No licenses, certification, or accreditation required for this position

    ☐ Licenses, certification, or accreditation required.

(7) Describe the name of the f school or institute you attend for this ground handling. ……………………….

(8) Does your position require any additional training or specific experience to perform the essential function?

[ ] Yes   [ ] No

(9) Does your company offer adequate opportunities for promotions and career development?

[ ] Yes   [ ] No

(10) Do you feel like your job utilizes your skills and abilities as much as it could?

[ ] Yes   [ ] No

(11) Does your organization have regular training for each department concerning ground handling?

[ ] Yes   [ ] No

(12) Does your organization have updated and recurrent training for ground handling?

[ ] Yes   [ ] No

(13) How often does your organization have the update and recurrent training?

[ ] 1 Year   [ ] 2 Years   [ ] 3 Years

[ ] 4 Years and above

Section B: Job Satisfaction

Subject matter	Very dissatisfied 1	Somewhat dissatisfied 2	Neutral 3	Somewhat satisfied 4	Very satisfied 5
Salary					
Benefits					
Frequency and amounts of bonuses					
Workload					
Flexibility of work hours					
Physical working environment					
Opportunity for advancement					
Job security					

Please indicate your level of agreement with each of the following:

Section C: The Effect of Courses from MCATI on Ground Handling and Your Job Opportunity.

Sr. No.	Please read each statement and indicate the extent to which you agree or disagree. Tick your responses.	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1	The courses at MCATI were beneficial.					
2	I obtained valuable skills in the courses.					
3	I obtained valuable life skills (i.e. teamwork, punctuality, quality of work, etc.) from the courses.					
4	The courses at MCATI provided skills necessary for ground handling.					
5	My current job relates to the courses I took at Aviation Training Institute.					
6	The courses provided by MCATI had a positive effect on my job at this ground handling department.					
7	The classes kept me motivated to work at this industry.					
8	The courses at MCATI contributed to my ultimate job satisfaction in this industry.					
9	It is my recommendation that all the ones who want to get a job at the airport should take the courses at MCATI.					

APPENDIX (F)

Questions for Key Informant Interview

Part (A) – Questions for principal of CATI

1. How CATI was approved and what is the mission of this institute?
2. How have training programs been designed?
3. What kinds of courses are provided from CATI?
4. How does CATI conduct to raise awareness for the instructors?
5. How are the courses from CATI beneficial for employees?
6. To what extent CATI produces students.
7. How CATI plans for future prospect?

Part (B) – Questions for deputy principal of CATI

1. It is learned that the Aviation Science School can only get job opportunities after completing the training to be able to carry out the ground work of the airports recognized by Myanmar International Airport every year. If so, what program does the school offer?
2. How can employees from companies that provide government-licensed airport services at Yangon International Airport come to this school and benefit from their training and career opportunities?
3. Does it mean that you will only be hired if you have attended a course offered by CATI?
4. I want to ask one last question. After completing the CATI training, do you support their job opportunities at both domestic and international airports?

Part (C) – Questions for Assistant Director for Training

1. How are CATI courses scheduled? Is it planned for the whole year?
2. Do successful courses provide any certification?
3. Is there a guarantee that you will get a job after completing this course?
4. What is the number of participants for each course?

Part (D) – Questions for Safety Manager of Yangon Aerodrome Company Limited

1. YACL is known to be in charge of the management of Yangon Airport. What kind of planning are you doing?
2. How many employees are employed at YACL? How is it planned to improve the quality of those employees?
3. Are you employed after attending CATI training? What is the purpose of attending the training?
4. What courses are available for YACL?
5. Can the courses offered by CATI be beneficial to YACL staff after the completion of the training?

Part (E) – Questions for Manager for Quality Safety Department of KBZ Air Line and Manager for Ground Operation Department of Myanmar National Airline (MNA)

1. Explain how much this airline currently operates the airport operations.
2. How do you raise awareness and hire these employees?
3. Are CATI courses a must? What are the benefits of attending the training there?
4. Is it true, then, graduates of CATI courses are helping their career opportunities because of the certification they receive?
5. Is it undeniable that CATI will be important to the aviation industry as a whole?