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**IMPACT OF LOGISTICS SERVICE
QUALITY (LSQ) ON CUSTOMER
SATISFACTION IN ARMY UNITS**

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Project Submission Pro-Forma

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Date: **May 2021**

**IMPACT OF LOGISTICS SERVICE QUALITY (LSQ) ON
CUSTOMER SATISFACTION IN ARMY UNITS**

MEJAR MOHAMAD SAFAWI BIN PAIMAN

Final project paper submitted to National Defence University of Malaysia in
fulfilment of the requirements for the Master of Business Administration
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ABSTRACT

Customer satisfaction is an important indicator for the successful and sustainable growth of a business. Customers are key elements while their satisfaction on services is priority for the sustainable growth of the organisation. Military logistics is a difficult process to implement when it involves the probability of response time, uncertainty of demands, high material cost and cost effectiveness which are the elements of determinants to capability. The objectives of this study are to determine the level of availability, accuracy, timeliness and information and customer satisfaction; to analyse the relationship between availability, accuracy, timeliness and information with customer satisfaction; and to identify the most conduct factor impact availability, accuracy, timeliness and information with customer satisfaction. A quantitative research methods was adapted using questionnaires with 79 respondents from the Malaysian Army mainly combat, combat support and combat service support and analysed using the Statistical Packages for the Social Sciences 26.0. The results of this study for the relationship between customer satisfaction and availability is ($r = 0.722$), accuracy ($r = 0.608$), timeliness ($r = 0.727$) and information ($r = 0.756$). Overall of independent variables namely; availability, accuracy, timeliness and information have a significant positive relationship with dependent variable namely customer satisfaction. Base on MLR analysis, it was found that information factor contribute the highest correlation with the customer satisfaction among the soldiers involved in the operations. This research is expected to serve as a useful guide and reference to any individual or organisation of interest such as the Malaysian Army.

Keywords: availability, accuracy, timeliness, information and customer satisfaction

ABSTRAK

Kepuasan pelanggan adalah petunjuk penting bagi organisasi atau syarikat yang mempunyai keinginan tinggi bagi kejayaan perniagaan dan pertumbuhan yang mampan. Pelanggan adalah elemen utama organisasi sementara kepuasan mereka terhadap perkhidmatan adalah keutamaan untuk pertumbuhan organisasi yang berterusan. Logistik ketenteraan adalah proses yang sukar untuk dilaksanakan apabila melibatkan kemungkinan masa tindak balas, tuntutan ketidakpastian, rujukan bahan yang tinggi dan keberkesanan kos adalah elemen penentu kepada kemampuan perniagaan. Objektif kajian ini adalah untuk menentukan tahap ketersediaan, ketepatan, ketepatan masa dan maklumat dan kepuasan pelanggan, untuk menganalisis hubungan antara ketersediaan, ketepatan, ketepatan masa dan maklumat dengan kepuasan pelanggan dan untuk mengenal pasti faktor keberkesanan faktor ketersediaan, ketepatan, ketepatan masa dan maklumat dengan kepuasan pelanggan. Kaedah penyelidikan kuantitatif dilakukan dengan menggunakan borang soal selidik kepada 79 responden dari Tentera Darat Malaysia di dalam unit tempur, bantuan tempur dan bantuan khidmat dan menganalisis menggunakan Statistical Package for the Social Sciences 23.0. Hasil kajian ini mengenai hubungan antara ketersediaan adalah ($r = 0.722$), ketepatan ($r = 0.608$), ketepatan masa ($r = 0.727$) dan maklumat ($r = 0.756$) dengan kepuasan pelanggan. Keseluruhan pemboleh ubah tidak bersandar iaitu ketersediaan, ketepatan, ketepatan masa dan maklumat mempunyai hubungan positif yang signifikan dengan pemboleh ubah bersandar iaitu kepuasan pelanggan. Berdasarkan kajian MLR, didapati faktor maklumat menyumbang korelasi tertinggi dengan Kepuasan Pelanggan di kalangan tentera yang terlibat dalam operasi tersebut. Penyelidikan ini diharapkan dapat menjadi panduan dan rujukan yang berguna kepada mana-mana individu atau organisasi seperti Tentera Darat Malaysia.

Kata kunci: ketersediaan, ketepatan, ketepatan masa, maklumat dan kepuasan pelanggan

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This final project paper titled, “**Impact of Logistics Service Quality (LSQ) On Customer Satisfaction in Army Units**” produced by **Mejar Mohamad Safawi bin Paiman** Matric No **3201323** has been accepted as having fulfilled the partial requirements for the Master of Business Administration (Supply Chain and Logistics).

.....

(Signature of Supervisor)

Lt Kol Dr. S Ananthan a/l Subramaniam (Retired)

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DECLARATION

I have read and understood the rules on cheating, plagiarism and appropriate referencing as outlined in my handbook and I declare that the work contained in this paper is my own, unless otherwise acknowledged. No substantial part of the work submitted here has also been submitted by me in other assessments for this or previous degree courses, and I acknowledge that if this has been done an appropriate reduction in the mark I might otherwise have received will be made.

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You are required to justify your submitted Project Paper against the degree definition for which you are registered.

Project definition for my degree:

The project should normally be related to supply chain and logistics environment. It could address many different aspects such as business, administration and management issues. My project relates to this definition in the following way:

1. The project is centred on **SUPPLY CHAIN AND LOGISTICS SUPPORT**.
2. This project addresses the aspect of **IMPACT OF LOGISTICS SERVICE QUALITY (LSQ) ON CUSTOMER SATISFACTION IN ARMY UNITS**.
3. The intention of the project is to assist **MALAYSIAN ARMY UNITS**.
4. The recommended improvements in this project are based on **CONCLUSION AND RECOMMENDATION STATED IN CHAPTER 5 OF THIS PROJECT PAPER**.

The above shows the relevance of the work to the degree for which it is submitted.

	Signed	Agree (√)	Disagree (√)
Supervisor: LT KOL DR. S ANANTHAN A/L SUBRAMANIAM (RETIRED)			

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Customer satisfaction is an important indicator for the successful and sustainable growth of a business. Customer is the organisation key element while their satisfaction on services is priority for the sustainable growth of organisation. According to Kushwaha et al., (2017), customer satisfaction is given top most priority in company because customers decide the need for products and services. On the other hand, customer satisfaction also can be highlighted based on customer experience on company service provider as well as the outcome of the services (Case & Authority, 2017).

Strong impact in organisation performance is related to customer satisfaction and loyalty which demand for the major area of intention for manager and higher business carrier. The vital factor to drive the customer satisfaction is on selecting key logistics service providers and long-term relationships with customers. With good care of the factors, supply chain integration surely increases which is the provision key on product quality and services thus driving customer satisfaction (Zhang et al., 2014). Logistics service quality (LSQ) contributes to the efficiency of delivery services that enhance the highly demand of customer's demand and requirement. According to Alemu (2016), 2 perceptions which are objective and subjective perceptions, can be measured on logistics service quality in LSQ models. The organisation in military such as Malaysian Army (MA) units also emphasises the logistics part as a major element for the satisfaction of unit and prepares for the readiness either during in peace time, training or operations phases. Generally, logistics in MA functions is to be responsible in providing any materials, tools and services needed by personnel or unit itself. It has been recognised that logistics is a vital component in military forces and the function has not lost its significance throughout history (Milenkov et al., 2020).

1.2 Background of Research

According Malaysian Military Doctrine, The Army Revised Edition (2010), which is MA doctrine, the Army is currently undergoing transformation into becoming a lean, balanced and credible force that is structured, equipped and trained to meet new security challenges. The structure of MA completely involves all support elements and service support elements to fully equip and provide any requirement on Combat element for the successful of Army mission and vision which is to defend Malaysia's land

sovereignty and its interest from external threats. Basically, the Army main structure comprises with three main elements. The elements are combat, combat support and combat service support. All elements are dependent to each other and successful conduct of tasks or mission cannot be achieved independently. Three main elements in The Army are as in **Figure 1**.

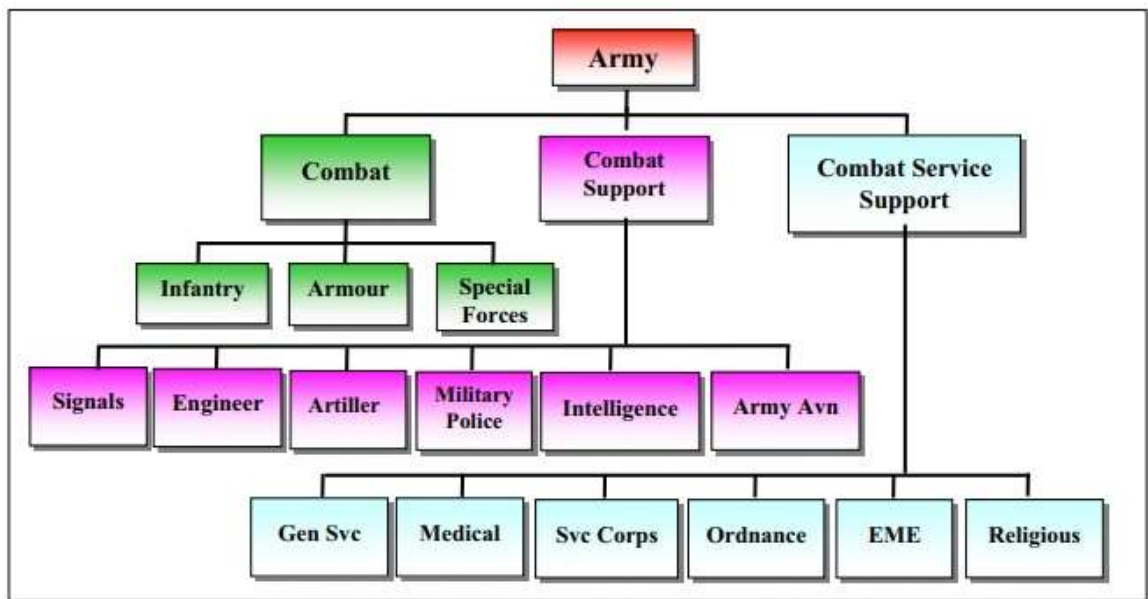


Figure 1: Elements in The Army (TD 2010)

According to Malaysian Military Doctrine in Combat and Combat Support Tactics Doctrine (2011), combat element is units or groups that face the enemy directly and successful accomplishment of all mission is depending on the unit itself. Combat element will assist and support with the ability of fire power and asset accordingly by combat support element in facing the threats. Combat support with their assets will give booster combat power to combat element such as fire power and security support. Administration and logistics support with unstoppable ammunitions, fuel and routine re-supply for the man and machine during the operations will be supported by combat service support element. Good support on logistics element on the units or group either

for combat support or combat element are the main factors for the successful accomplishment of an operation.

Logistics staff play an important role in the entire field of administrative and operational affairs which is reflected in multi environments in Army routines. Creating general and special conditions for the safe functioning of the logistics system and reducing the uncertainty of logistics support, development and implementation of new models in the logistics system that can achieve rationalisation of utilisation of available resources and optimisation of costs, increasing the quality of logistics support and customer service requirements with a greater level of specialised knowledge and taking numerous measures to protect resources of all kinds, are common issues that need to be handle by all logistics staff in Army Logistics. Logistics staff in Army unit or formation also play the same role.

During administration and peace time, basic needs for the soldiers such as food and accommodation, clothing issues and accessories during master parade and equipment support for training need must be supplied and supported by logisticians. Ammunitions, combat rations, cloth and basic accommodation for personnel must be provided by logistics staff before embarking for the operations. As the key element for the successfully conduct of units, logistics staff must provide their job specialist with the quality of work in logistics.

1.3 Problem Statement

Customer satisfaction is the fundamental concept in marketing and business strategy that consists of the feeling of pleasure or disappointment resulting from the comparison between the expectations of the buyer and perceived performance or result of a product (Fernandes et al., 2018). The authors also added that customer satisfaction arises the moment a company manages to provide a logistics service that meets or exceeds the customer's expectations.

According to Acero et al., (2019), military logistics is a difficult process to be implemented when it involves the probability of response time, uncertainty demands, high material reference and cost effectiveness which are the elements of determinants to business capability. The concepts implemented on business also occur in the army unit for the customer satisfaction on the logistics service. The soldier is the main customer in the logistics department and the success of the units is the mirror image for the successful conduct of logistics service on soldier satisfaction. With that close relationships on the customer satisfaction and logistics service, Fernandes et al., (2018) highlight that controlling Logistics Service Quality (LSQ) in military logistics can influence the soldiers' satisfaction.

In Army units, soldiers will perform their works with the best morale support provided from their superior. Quality of works will increase along with the high morale regarding the logistics support related to their duty or jobs. For the logistics staff who are responsible on the logistics matter in units, their morale for quality of works are

based on the method on the logistics service. LSQ with some implemented modification in logistics department will show the improvement of satisfaction of logistics staff working performances (Sze et al., 2012).

Timeliness in items or products in logistics department is a vital factor for the quality in logistics services either for business or in military environments. Army units especially will play with time for any kind of job or task given. Logistics staff must have appropriate items in their stock every single time in order to be issued to the soldiers at any crucial time. Logistics staff's satisfactions are high with LSQ factor which is timeliness on their stock delivery and their planning to distribute items or stock to the soldiers in units. It is found that customer satisfaction can be further enhanced given the availability of flexible timeliness based on demand (Sze et al., 2012).

Soldiers in Army units especially logistics staff work performance is dependent on accuracy factor in logistics process. The accuracy factor occurs during receiving the items and equipment, during distributing of items to soldiers and units, various types of store and stock, accuracy of information of distribution and accuracy of amount of distributed items. LSQ in accuracy factor will appear along with the effectiveness of customer satisfaction especially to logistics staff.

The sharing of quality information from logistics officer to their staff accordingly on logistics enhance the quality of works on their expertise. Soldiers in Army units or the unit headquarters must get the consistence information from logistics

officer on their unit stock. Commander in the Army unit must be briefed by the logistics officer or staff for their asset or stock in unit. Army personnel also must be aware and in picture for any items or stock in logistics store for their accommodation or personal requirement as a trained soldier. All the information on logistics due to Army unit or to personnel must be consistently brief or share. The information given are from the logistics officer to logistics staff before sharing them with the soldiers. Accurate information with the same language or sound will result on the good performance and work quality of the unit. Thus, the customer satisfaction for soldier or logistics staff is high because of quality information given by logistics officer accordingly.

Availability of logistics items in Army unit during peace time or in operation must be in the range of amount in the logistics store if needed in any crucial time. Not only on the availability of items, the logistics staff availability on the logistics jobs and availability of information on logistics matters are the factors in Army unit quality of logistics. Army unit can be operated effectively by the availability of logistics to support their operational operation continuously. Logistics staff can perform their duty on the availability factor of items in each store in Army units to support personnel or unit requirement.

Customer satisfaction for personnel in Army units can be reflected by the quality factor of logistics service that has been implemented in the logistics department in units. Each soldier is satisfied by having a good management and logistics support with best quality services in every process. Army units also can perform in every event or mission given by higher commander when logistics support is in good services.

From the above problem statement, the quality factors of logistics service which are timeliness, accuracy, quality information and availability can give impact to the soldiers in Army units on their customer satisfaction.

1.4 Research Question

The following research questions have been developed:

- (a) What is the level of availability, accuracy, timeliness, information and customer satisfaction?

- (b) What is the relationship between availability, accuracy, timeliness, information with customer satisfaction?

- (c) What is the most significant factor of availability, accuracy, timeliness, information and customer satisfaction?

1.5 Research Objective

In general, any research to be undertaken must have the primary objectives of presenting and elaborating the data. The main aim of this research is to study the impact of logistics service quality on customer satisfaction in Army unit. As such, the specific goals of this research were set to assist this research.

- (a) To determine the level of availability, accuracy, timeliness, information and customer satisfaction.
- (b) To analyse the relationship between availability, accuracy, timeliness and information with customer satisfaction.
- (c) To identify the most significant factor of availability, accuracy, timeliness and information that contribute to customer satisfaction.

1.6 Significant of the Research

Army units consist of three elements which are combat, combat support and combat service support. Army units are facing the logistics service quality that will affect soldier's routine especially on their basic need in accommodation during normal routine in unit. If the service quality is not efficient, it will jeopardise the Army unit to accomplish the mission during training or operation. Timeliness, accuracy, information and availability of items or equipment are needed by logistics staff accordingly as part of the factors on logistics service quality that influence to the customer satisfaction as well as logistics staff's satisfaction on their duty. Customer satisfaction in each logistics staff in Army unit can be proven with the effectiveness of the Army units in performing their logistics process and procedure from receiving the items until delivery; and the soldier used the items completely and appropriately.

1.7 Limitation of the Research

There are several limitations during the conduct of this research especially when it involves the third party which are the Army units in Sungai Besi Camp related to their elements which are combat, combat support and combat service support elements.

1.7.1 Time constraints

Respondents and sampling are from the logistics staff in Army units in Sungai Besi Camp. Data collection process can be completed depending on the availability of Army units to release the respondents to answer the questionnaire. Mostly the Army units in Sungai Besi Camp involve in Operation Penawar which is a collaborated operation with National Security Council during the pandemic disaster. Other than that, due to the current threat which is pandemic disaster, most of Army units in Sungai Besi Camp involve in heavy duty on Operation Other Than War (OOTW) to support National Security Council in curbing Covid – 19 pandemic to spread out widely.

1.7.2 Reference Material Constraints

The focus of this research is on logistics in Malaysian Army units. The constraint for reference and article is related to the local military units in Malaysia because of the highly classified and confidential from public release as journal or article. Article and journal related on public business environment and civilian

organisation are used as reference for this research to relate on military unit and environment.

1.8 Operational Definition of Terms

1.8.1 Customer Satisfaction

The consumer's response to the evaluation of the perceived discrepancy between prior expectation and the actual performance of the product or service as perceived after its consumption. (Tse & Wilton, 1988).

1.8.2 Availability

The probability that a system will be ready to perform its mission or function under stated conditions when called upon to do so at a random time (Vamshi K., 2000).

1.8.3 Accuracy

According to ISO 5725-1(1994), accuracy can be describe as qualitative terms that describe how close the measurement are to the actual or true value.

1.8.4 Timeliness

The degree to which data represent reality from the required point in time. Timeliness associated with data availability, the degree to which customers have the data they need at the right time (English, 1999).