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FACTORS AFFECTING THE EFFICIENCY OF SUPPLIES MANAGEMENT AT THE FACULTY OF HUMANITIES AND SOCIAL SCIENCES, SUAN SUNANDHA RAJABHAT UNIVERSITY

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ABSTRACT

Abstract—This research, titled “Factors Affecting the Efficiency of Supplies Management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University,” aimed to study the level of supplies management, its efficiency, and the factors influencing it. The sample consisted of 196 academic support personnel from the university. The findings revealed that the overall efficiency of supplies management at the faculty was at the highest level (was not given in the text, but the highest level was stated). When considering specific aspects, all were rated at the highest level, ranked as follows from highest to lowest: Value for Money (Mean = 4.82), Transparency (Mean = 78.4), Efficiency and Effectiveness (Mean = 70.4), and Auditing (Mean = 64.4). Furthermore, the analysis of factors influencing efficiency found that supplies management efficiency (Y) had a statistically significant positive relationship ($p < .05$) with both Personal Characteristics (Degree) and Process Factors (FacC), which together explained 17.9% ($R^2_{adj} = .179$) of the variance in supplies management efficiency, with a standard error of estimate (E_{est}) of 0.1833. The predictive equation in raw scores ($\hat{y} = 3.133 + 0.129(\text{Degree}) + 0.140(\text{FacC})$) indicates that the factors within supplies management that significantly affect its efficiency are Supplies Management Planning (Degree = 0.129) and Information Systems (FacC for Supplies Control = 0.140).

Keywords—Supplies Management, Efficiency, Influencing Factors

INTRODUCTION

Supplies management at the university level is a crucial and complex process that necessitates a thorough understanding of relevant laws, regulations, and bylaws, particularly the Public Procurement and Supplies Management Act B.E. 2560 (2017)^[1]. Adherence to this act ensures efficient, transparent, and lawful operations, which is vital given the management of diverse and high-value resources integral to the organization's mission of education, research, and academic services. Effective supplies management encompasses several key stages: meticulous procurement planning based on departmental needs, budget, and defined

specifications; lawful purchasing and hiring following prescribed methods (e.g., bidding, selection) emphasizing transparency and value for money; detailed inspection and acceptance upon delivery; proper storage in secure, organized facilities to prevent loss or damage; accurate and current inventory accounting; strict control over disbursement; regular maintenance to extend asset lifespan; and transparent disposal of obsolete items in accordance with the Act (e.g., sale, destruction). Overall, a strong control and audit system, the continuous development of competent personnel, and the judicious application of information technology are essential for optimizing all supplies management processes. Integration of advanced IT systems like ERP, cloud computing, and IoT significantly improves supply chain visibility and coordination, enabling better inventory control and reducing lead times (Lohakare, 2025)[2]. Additionally, adaptive management models and flexible contract mechanisms help enterprises respond effectively to market fluctuations and disruptions, optimizing resources and financial stability (Mytrofanova & Pirkovets, 2025)[3]; (Berk et al., 2023)[4]. Overall, combining robust governance, skilled personnel, and modern technology forms the foundation for optimizing supply management processes and achieving operational excellence (Leha et al., 2025)[5]. Inefficient management can lead to procurement delays, loss of supplies, poor value for money, and a lack of transparency, significantly impacting organizational performance (Atiende & Ndolo, 2025)[6], (Ackah, Issah, & Richard, 2025)[7].

The Faculty of Humanities and Social Sciences (FHSS) at Suan Sunandha Rajabhat University recognizes the importance of supplies management, managing a large budget and involving multiple personnel in the procurement process. However, the Faculty faces challenges, notably in document management, which frequently peaks towards the end of the fiscal year. This inefficiency results in operational delays, failure to meet planned schedules, and potential dissatisfaction among service recipients, thereby affecting overall faculty performance. Specifically, issues such as procurement delays, loss of supplies, and ineffective budget utilization highlight the need for systemic improvement.

Motivated by these persistent problems and the critical role of efficient resource management, the researcher intends to study the “Factors Affecting the Efficiency of Supplies Management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.” The primary objective is to investigate the factors that influence the efficiency of supplies management among the faculty's academic support personnel. The findings from this research will be instrumental in developing and implementing targeted improvements to the Faculty's supplies management system, aiming for demonstrably greater efficiency.

OBJECTIVES OF THE RESEARCH

1. To study the level of supplies management and the level of supplies management efficiency at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.
2. To study the factors affecting the efficiency of supplies management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.

RESEARCH METHODOLOGY

The population for this study consisted of 400 academic support personnel at Suan Sunandha Rajabhat University. The sample size was determined using the completed table for calculating sample size developed by Krejcie and Morgan (1970, pp. 607-610)[8], resulting in a sample of 196 individuals.

1) *Data Collection Instrument*

The instrument used for this research was a questionnaire distributed to the personnel of the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, which was divided into three sections:

- **Part 1: Personal Characteristics** of the respondents, covering gender, age, education level, and work experience. The questions were multiple-choice (Checklist format).
- **Part 2: Supplies Management Factors** at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, which included: procurement, distribution, supplies control, maintenance, and disposal of supplies.
- **Part 3: Supplies Management Efficiency** at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, which covered the aspects of: value for money, transparency, efficiency and effectiveness, and auditing.

Both **Part 2 and Part 3** utilized a 5-point Likert Scale, ranging from “Most” (มากที่สุด), “High” (มาก), “Moderate” (ปานกลาง), “Low” (น้อย), to “Least” (น้อยที่สุด).

2) *Data Analysis*

The data analysis in this study employed two main statistical methods:

- Descriptive Statistics were used to describe the personal characteristics of the respondents using frequency and percentage. For analyzing the supplies management factors and supplies management efficiency, the data were described using the mean and standard deviation (S.D.).
- Inferential Statistics utilized Multiple Linear Regression Analysis with the Enter Method for variable selection. This was conducted to examine the relationship between personal characteristics and supplies management factors and to determine which of these variables serve as success factors for the efficiency of supplies management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.

The formula for a multiple linear regression is:

$$\hat{Y} = a + b_1X_1 + b_2X_2 + \dots + b_kX_k$$

Where:

- \hat{Y} = the predicted score of the dependent variable (criterion variable).
- a = the constant of the prediction equation in raw scores.
- b_1, b_2, \dots, b_n = the raw score weight or regression coefficient for the 1st through n independent variables (predictor variables), respectively.
- X_1, X_2, \dots, X_n = the scores of the 1st through n independent variables (predictor variables), respectively.
- n = the number of independent variables (criterion variables).

RESULTS

The findings from the data analysis on the factors affecting the efficiency of supplies management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, are presented as follows:

1. Personal Characteristics of Respondents

The total number of respondents was 196. The majority were female (156 people, representing 79.60%), while people were male (20.4%). Most respondents were aged 41–50 years (63 people, 32.1%). In terms of education, the majority held a post-graduate degree or higher (166 people, 84.7%). The largest group had 6–10 years of work experience (84 people, 42.9%).

2. Level of Supplies Management Factors

The analysis of the level of supplies management factors at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, revealed that the overall level was at the highest level (Mean = 4.31).

When considered by individual aspect, the factors were ranked from highest to lowest as follows: 1) Distribution was at the highest level (Mean = 4.59) 2) Supplies Control was at the highest level (Mean = 4.44) 3) Procurement was at the highest level (Mean = 4.37) 4) Maintenance was at a high level (Mean = 4.09) and 5) Disposal of Supplies was at a high level (Mean = 4.05). This finding is summarized in Table 1.

Table 1 Overall Level of Supplies Management Factors at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University

| Overall factors of material management | Opinion level | | | |
|--|---------------|--------------------|-------|-------|
| | \bar{X} | Standard deviation | level | Grade |
| 1. Procurement | 4.37 | 0.352 | Most | 3 |
| 2. Distribution | 4.59 | 0.322 | Most | 1 |
| 3. Supplies Control | 4.44 | 0.409 | Most | 2 |

| Overall factors of material management | Opinion level | | | |
|--|---------------|--------------------|-------------|-------|
| | \bar{x} | Standard deviation | level | Grade |
| 4. Maintenance | 4.09 | 0.357 | High | 4 |
| 5. Disposal of Supplies | 4.05 | 0.421 | High | 5 |
| Total | 4.31 | 0.156 | Most | |

3. The analysis of the level of supplies management efficiency at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, revealed that the overall efficiency was at the highest level (Mean = 4.73). When examining the individual aspects, all dimensions were also rated at the highest level and ranked from highest to lowest as follows: Value for Money (Mean = 4.82), Transparency (Mean = 4.78), Efficiency and Effectiveness (Mean = 4.70), and Auditing (Mean = 4.64), respectively. This finding is summarized in Table 2.

Table 2 Overall Level of Supplies Management Efficiency at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.

| Overall efficiency of parcel management | Opinion level | | | |
|---|---------------|--------------------|-------------|-------|
| | \bar{x} | Standard deviation | level | Grade |
| 1. Value for Money | 4.82 | 0.220 | Most | 1 |
| 2. Transparency | 4.78 | 0.250 | Most | 2 |
| 3. Efficiency and Effectiveness | 4.70 | 0.356 | Most | 3 |
| 4. Auditing | 4.64 | 0.358 | Most | 4 |
| Total | 4.73 | 0.198 | Most | |

4. The analysis of factors affecting the efficiency of supplies management at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, yielded the following results: Supplies management efficiency (Y) had a statistically significant positive relationship ($p < .05$) with both the Personal Characteristics variable (Degree) and the Process Factors (FacC). These two factors collectively explained 9.17% ($R^2_{adj} = .179$) of the variance in supplies management efficiency, with the Standard Error of Estimate (E_{est}) being 0.1833. These results are summarized in Table 3

The predictive equations in both raw scores and standardized scores are as follows:

Predictive Equation in Raw Scores:

$$\hat{y} = 3.133 + 0.129(\text{Degree}) + 0.140(\text{FacC})$$

Predictive Equation in Standardized Scores (Beta):

$$Z = 0.236(\text{Degree}) + 0.290(\text{FacC})$$

Table 3 Results of the Analysis of Factors Affecting Supplies Management Efficiency at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------------------------------|-----------------------------|------------|---------------------------|---------------|------|
| | B | Std. Error | Beta | | |
| Performance (Constant) | 3.133 | .392 | | 7.994 | .000 |
| Sex | .058 | .034 | .120 | 1.727 | .086 |
| Age | -.014 | .016 | -.060 | -.889 | .375 |
| Degree | .129 | .038 | .236 | 3.434* | .001 |
| Expenses | -.008 | .015 | -.037 | -.536 | .592 |
| FacA (Procurement) | .025 | .051 | .045 | .492 | .624 |
| FacB (Distribution) | .060 | .052 | .098 | 1.159 | .248 |
| FacC (Supplies Control) | .140 | .048 | .290 | 2.938* | .004 |
| FacD (Maintenance) | .088 | .046 | .158 | 1.903 | .059 |
| Factor (Disposal of Supplies) | -.044 | .161 | -.035 | -.275 | .784 |

a. Dependent Variable: Performance

Excluded Variables^a: FacE

* Sig. < .05

| R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------------------|----------|-------------------|----------------------------|---------------|
| .424 ^a | .179 | .140 | .18331 | 799.0 |

a. Predictors: (Constant), Factor, Expenses, Age, Sex, Degree, FacB, FacD, facA, FacC

CONCLUSION AND FUTURE WORK

The research findings on the efficiency level of supplies management within the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, indicate that the overall efficiency is at the highest level. A detailed analysis by dimension further revealed that all dimensions were also rated at the highest level, ranked in descending order of the mean score as follows: 1) Value for Money, 2) Transparency, 3) Efficiency and Effectiveness, and 4) Auditability/Accountability. The operations of the supplies unit strictly adhere to the regulations and procedures stipulated in the Public Procurement and Supplies Management Act B.E. 2560 (2017)[1]. This includes methods where the state agency invites a qualified entrepreneur to submit a proposal or negotiate a price, as well as direct small-value procurements specified by ministerial regulations. Therefore, meticulous execution is essential. Furthermore, practitioners should continuously analyze performance results to identify and resolve potential issues, which is critical for significantly minimizing resource wastage. This is consistent with the research conducted by Uthakan (2020), which investigated the factors of supplies management affecting the efficiency of supplies management among supplies technical officers at Mahasarakham University. The study utilized questionnaires to collect data from 63 technical officers. Statistical analysis, including descriptive statistics (mean and standard deviation) and inferential

statistics (multiple correlation and multiple regression analysis), revealed that supplies management factors—namely procurement, inventory control, maintenance, and disposal—were significantly and positively correlated with and impacted overall supplies management efficiency. Parmdin, & Sithamma (2023)[9] to study the Problems and Development Guidelines on Material Administration for Material Officials in Naresuan University found that the Results of the Satisfaction for Usage of Procurement Service of Udon Thani Education Center, Suan Sunandha Rajabhat University. 1) The location and facilities environment Opinions' level High, 2) The process and duration Opinions' level High, 3) The Satisfaction with the service of parcel work Opinions' level High. The problems and obstacles that most users encounter were as follows: 1) There should be a chair to sit on and wait for during service 2) Samples of proof of disbursement of the procurement department should be provided. Let the personnel know to reduce errors in submitting disbursement documents. The results of this research can be corrected for the recipient of the parcel service More performance improvements.

The analysis of factors influencing the efficiency of supplies management (Y) at the Faculty of Humanities and Social Sciences, Suan Sunandha Rajabhat University, yielded the following findings: 1) Relationship and Variance Explained: The efficiency of supplies management (Y) demonstrated a statistically significant positive correlation ($p < .05$) with the variables of Personal Characteristics (Degree) and Supplies Management Factors (FacC). These two variables collectively explained 17.9% of the variance in supplies management efficiency ($R^2_{adj} = .179$), with a standard error of estimate (SE_{est} of 0.1833. 2) Prediction Equation: The prediction equation in unstandardized score form is: $Y' = 3.133 + 0.129(Degree)^* + 0.140(FacC)^*$. It is concluded that the supplies management factors significantly affecting efficiency are Supplies Management Planning (coefficient = 0.129) and Information Systems (coefficient = 0.140). These findings align with the research by Kotamee, et al., (2020), which investigated factors influencing the efficiency of supplies management in sub-district municipalities within Bueng Kan Province. That study revealed that supplies management significantly impacted the efficiency of supplies management in the sub-district municipalities ($p < .05$). The outcome of material procurement showed the highest influence ($\beta = .231$), followed by Maintenance ($\beta = .225$). Supplies management explained 25.00% of the variance in supplies management efficiency in the sub-district municipalities, with an Adjusted R^2 value of 0.250. In alignment with the preceding findings, the research is also consistent with the study by Boonpicam. (2022)[10], who investigated the factors influencing the supplies management efficiency at Mahasarakham University. The study sample comprised 72 personnel assigned or appointed to supplies-related duties, selected using the Cluster Random Sampling method. The data collection instrument was a 5-point Rating Scale questionnaire consisting of 34 items, with individual item discrimination power (r_{xy}) ranging from 0.26 to 0.89, and a total questionnaire reliability coefficient of 0.61. The data analysis employed Multiple Regression Analysis using the Stepwise method. The key findings are summarized below: 1) Relationship and Variance Explained: The supplies management efficiency (Y) at Mahasarakham University exhibited a statistically significant positive correlation ($p < .05$) with the factors of Supervision (X_2) and

Budget (X_4). These two variables jointly accounted for 42.60% of the variance in supplies management efficiency ($R^2_{adj} = .426$, with a standard error of estimate (SE_{est}) of 2.344. 2) Prediction Equations: The variables capable of predicting supplies management efficiency (Y) are Supervision (X_2) and Budget (X_4), explaining 42.60% of the variance. The prediction equations in both unstandardized and standardized scores are as follows: Unstandardized Score Equation: $Y' = 547. + 177.10X_2^{**} + .360X_4^{**}$ and Standardized Score Equation: $Z_{Y'} = .427Z_2^{**} + .334Z_4^{**}$

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