

**RELATIONSHIP BETWEEN 5S PRACTICES AND
ORGANIZATIONAL PERFORMANCE AT
FABER MEDI-SERVE SDN. BHD.**

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UNIVERSITI UTARA MALAYSIA

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**RELATIONSHIP BETWEEN 5S PRACTICES AND
ORGANIZATIONAL PERFORMANCE AT
FABER MEDI-SERVE SDN. BHD.**

By

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ABSTRACT

Based on the Japanese words Seiri, Seiton, Seiso, Seiketsu and Shitsuke, the 5S philosophy focuses on effective workplace organization and standardized work procedures. Once fully implemented, the 5S practices can increase moral, create positive impressions on customer, increase efficiency and organization. Not only employee will feel better about where they work, but the continuous improvement of 5S leads to less waste, better quality and faster lead time. 5S practice is one of the techniques to improve quality environment, health and safety at the workplace. This study is carried out to identify the relationship between 5S implementation and performance at Faber Medi-Serve Sdn. Bhd. This study intends to identify whether the practice had improved the performance of the company and this is important as to extend the government (MOH) contract. The scope of study covers the area of six locations ie. FMS Kuala Nerang Tuanku Fauziah, Jitra, Yan, Sik, Baling and Sungai Bakap. A total of 140 sets of questionnaires were distributed. Out of 122 sets were returned and it takes about two weeks to complete the questionnaires by respondents. The data analyzed by using SPSS version 12. This study also explains the process of 5S implementation at the company.

ABSTRAK

Berdasarkan kepada perkataan Jepun iaitu Seiri, Seiton, Seiso, Seiketsu dan Shitsuke, ia merupakan prinsip asas 5S yang memberi kesan kepada tempat kerja dan keseragaman peraturan kerja di dalam sesebuah organisasi. Dengan mengamalkan 5S, ia boleh meningkatkan moral, perilaku yang positif terhadap pelanggan syarikat, meningkatkan kecekapan dan organisasi. Bukan sahaja pekerja akan merasa selesa walau di mana mereka bekerja, tetapi peningkatan secara berterusan dari pelaksanaan 5S boleh membawa kepada kurangnya pembaziran, kualiti lebih baik serta kepantasan masa. Amalan 5S juga merupakan salah satu teknik untuk meningkatkan kualiti persekitaran, kesihatan serta keselamatan di tempat kerja. Kajian ini dijalankan untuk mengenalpasti perhubungan di antara pelaksanaan 5S dan tahap pencapaian di syarikat Faber Medi-Serve Sdn. Bhd. Kajian ini juga bertujuan untuk mengenalpasti samada amalan ini dapat meningkatkan pencapaian syarikat dan ianya adalah penting untuk penyambungan kontrak dengan Kementerian Kesihatan Malaysia (MOH). Skop kajian yang dijalankan ini meliputi enam lokasi iaitu FMS Kuala Nerang, Tuanku Fauziah, Jitra, Yan, Sik, Baling dan Sungai Bakap. Borang kajian selidik sebanyak 140 set telahpun diedarkan di lokasi-lokasi tersebut. Sebanyak 122 set telahpun dapat dikumpulkan dan ia hanya mengambil masa selama dua minggu untuk menyiapkan soal selidik ini daripada para responden. Data tersebut dianalisa dengan menggunakan sistem SPSS versi 12. Kajian ini juga menerangkan process pelaksanaan 5S di syarikat tersebut.

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LIST OF ABBREVIATIONS

MPC	Malaysian Productivity Corporation
FMS	Faber Medi-Serve
UEM	United Engineering Malaysia
MOH	Ministry Of Health
CWMS	Clinical Waste Management Services
BEMS	Bio-medical Engineering Management Services
FEMS	Facility Engineering Management Services
CLS	Cleansing and Janitorial Services
LLS	Linen and Laundry Services
5S	Sort, Set, Shine, Standardize, Sustain
TQM	Total Quality Management
TPM	Total Productivity Management
JIT	Just In Time
PDCA	Plan-Do-Check-Act
KPI	Key Performance Indicator
FMT	Facility Management

CHAPTER 1

INTRODUCTION

1.0 Chapter Overview

This chapter will brief and discuss of the selected topic of this study. It will start with the introduction and background of the study, problem statement, significance of study, research objective, research question, research framework, hypothesis, scope of study, definition of terms and it will finally ending with the summary of the study.

1.1 Introduction and Background of the Study

Today's workplace is face with changes of technology, globalization and liberalization. Many companies are trying very hard not only to satisfy their customer's needs but where possible exceed them. One of tools taking by the company is 5S program where associated with other key industry tools for instance, Kaizen, Lean Manufacturing and Continuous Improvement programs. The 5S are the five key of process for improvement ie. Sort, Set, Shine, Standardize, and Sustain. As quote by (Galsworth, 1997), the 5S is the Japanese code name for cleanliness and order with a vengeance.

5S is a method of cleaning up and organizing the workplace using its existing configuration. It is a system for improvement in terms of efficiency by eliminating waste, improving flow, reducing process unnecessary item and optimizing productivity. Besides that, based on the previous research, through the 5S implementation, it contributes towards increasing company's productivity and quality.

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References

- Abramovitch, I. (1994, January/February). Beyond kaizen. *Success*, 75, 85-88.
- Ahuja, I.P.S, and Khamba, J.S. (2008), "Total productive maintenance, literature review and directions", *International Journal of Quality & Reliability Management*, Vol.25 No.7, pp.709-56.
- Albert, M. (2004, January). This shop really shines [Electronic version]. *Modern Machine Shop*, 26-34. Retrieved November 7, 2005 from http://www.findarticles.com/p/articles/mi_m3101/is_8_76/ai_112862177
- Bayo-Moriones, A., Bello-Pintado, A. and Meriono-Diaz de Cerio, J. (2008), "The role of organizational context and infrastructure practices on JIT implementation". *International Journal of Operations & Production Management*, Vol.28 No. 11, pp. 1042-66.
- Becker, J. E. (2001, November). Implementing 5S to promote safety & housekeeping. *Professional Safety*, 46, 29-31.
- Bicheno, J. (1998), "Your lean toolbox", *Control*, September, pp. 10-11.
- Chaneski, W. S. (2004, July). Making 5S stick in your shop [Electronic version]. *Modern Machine Shop*, 46-48. Retrieved November 7, 2005 from http://www.findarticles.com/p/articles/mi_m3101/is_2_77/ai_n6136534.
- Chapman, C.D. (2005), "Clean house with lean 5S", *Quality Progress*, Vol.38 No. 6, pp. 27-32.
- EMS Consulting Group, 2003 . *5S implementation* [Online] (Updated: May 22, 2009) Available at: <http://www.emsstrategies.com/dm103103article.html>.
- Gapp, R., Fisher, and Kobayashi, K. (2008), "Implementing 5S within a Japanese context: an integrated management system", *Management Decision*, Vol. 46 No. 4, pp. 565-79.
- Hair, J.F., Money, A.H., Samouel P., & Page M., (2007). *Research methods for business*. England, West Sussex: John Wiley and Sons.
- Hirano, H. and Talbot, B. (1995), *5 Pillars of the Visual Workplace: The Source Book for 5S Implementation*, Productivity Press, Portland, OR.
- Hirano, H. (1996). *5S for operators: 5 pillars of the visual workplace*. New York: Productivity Press.

- Hines, P., Holwe, M. and Rich, N. (2004), "Learning to evolve a review of contemporary lean thinking", *International Journal of Operations & Production Management*, Vol. 24 Nos 9/10, pp. 994-1011.
- Ho, S.K., Fung, C. and Cicmil, S. (1995), ``*The Japanese 5-S practice and TQM training*`, *T Training for Quality Journal*, Vol. 3 No. 4
- Ho, S.K.M., (1997). Workplace learning: *The 5S way*. *J. Workplace Learn.*, 19: 185-191.
10.1108/13665629710180375.
- Ho, S.K.M. and C.K.H. Fung, (1994). *Developing a TQM excellence model*. *TQM Mag.*6: 24-30
DOI: 10.1108/09544789410073612.
- Ho, S.K (1998), "5S practice: a new for industrial management", *Industrial Management & Data System*, Vol.98 No.2, pp.55-62.
- Ho, S.K.M., 1999b. The 5S auditing. *Manage. Audit. J.*,14: 294-301.
- J. Venkatesh, Plant Maintenance Resource Center, 2007. *An Introduction to Total Productive Maintenance (TPM)* [Online]
Available at: http://www.plant-maintenance.com/articles/tpm_intro.pdf.
- James-Moore, S.M. and Gibbons, A (1997), "Is lean manufacturer universally relevant? An investigative methodology", *Internal Journal of Operations & Production Management*, Vol. 17 No. 9, pp. 899-911.
- Khanna, V.K., 2009. 5 "S" and TQM status in Indian organizations. *TQM J.*, 21: 486-501. DOI: 10.1108/17542730910983407
- Keegan, G. (2009). *Writing a Research Investigation report, Glossary*, Retrieved Feb 3, 2011 from <http://www.gerardkeegan.co.uk/glossary.htm>
- Kobayashi, K., Fisher, R. and Gapp, R. (2008), "Business improvement strategy or useful tool? Analysis of the application of the 5S concept in Japan, the UK and the US", *Total Quality Management*, Vol.19 No.3, pp. 245-62.
- Lau, H., & Idris, M.(2001). The soft foundation of the critical success factors on TQM implementation in Malaysia. *The TQM magazine*, Vol. 13 No 1, pp. 51-60.
- Manos, M., Sattler, M, & Alukol, G. (2006, May). Make healthcare lean. *Quality Progress*, 39, 24-30.
- Maull, R., Brown, P. and Cliffe, R. (2001), "Organisational culture and quality improvement", *International Journal of Operations & Production Management*, Vol. 21 No. 3, pp. 302-26

- Neuman, W.L (2003). Social research theory methods: qualitative and quantitative (5th ed.). New York: Pearson Education Inc.
- O'hEocha, M., 2000. A study of the influence of company culture, communications and employee attitudes on the use of 5Ss *for environmental management at Cooke Brothers Ltd*. TQM Mag., 12: 321-330. DOI: 10.1108/09544780010341923
- O'Eocha, M. (2000), "Use of 5Ss for environmental management at Cooke Brothers", The TQM Magazine, Vol. 12 No. 5, pp. 321-30.
- Osada, T. (1991), The 5S: Five Keys to a Total Quality Environment, Asian Productivity Organisation, Tokyo.
- Pavnaskar, S.J., Gershenson, J.K and Jambekar, .B (2003), "Clasification scheme for lean manufacturing tools", *International Journal of Production Research*, Vol. 41 No. 13, pp. 3075-90.
- Peterson, J. and Smith, R. (1998) The 5S Pocket Guide. Portland: Productivity Inc.
- Pheng, L.S., 2001. *Towards TQM-integrating Japanese 5-S principles with ISO 9001:2000 requirements*. TQM Mag., 13: 334-341. DOI:
- Williams, G.B. (1999), ``Autonomous steps to world class manufacture at Hoogovens Aluminium UK Ltd", in Ho, S.K.M. (Ed.), *TQM and Innovation, Proceedings of the 4th International Conference on ISO 9000and TQM*.
- Salkind, N. (2006). *Exploring researchI* (6th ed.). New Jersey: Pearson Prentice Hall.
- Schroeder, R. and Flynn, B. (2001), High Performance Manufacturing, Wiley, New York, NY.
- Sekaran, U. (2003). *Research Methods for Business (4thed.)*. United State of America: John Wiley & Sons, Inca.
- Sekaran, U. (1986) Dual-career families, San Francisco: Jossey-Bass.
- Sekaran, Umar. (2003). *Research methods for business: A skill building approach*. (4th ed.) USA: John Wiley & Sons, Inc.
- Siliconfareast.com, *The 5 'S' Process: Seiri, Seiton, Seiso, Seiketsu, Shitsuke* (Page 1 of 2), 2000. [Online]. Available at: <http://www.siliconfareast.com/5S.htm>.
- Sharp, J.M., Irani, Z. and Desai, S., 1999. "Working toward agile manufacturing in the UK Industry", *International Journal of Production Economics* 62, pp. 155-169.

- Shah, R. and Ward, P.T (2003), "Lean manufacturing context, practice bundles, and performance", *Journal of Operations Management* Vol. 21 No. 2, pp. 129-49.
- Skaggs, T. (2004). *The 5S philosophy to improve the workplace* [Electronic version]. Retrieved July 16, 2004 from http://tpmonline.com/papakaizen/articles_on_lean_manufacturing_strategies/5s.htm.
- Straker, D. (2002), "Tools of the trade", *Quality World*, Vol. 28 Nos. 1-11.
- Syptak, J.M., Marsland, D., & Ulmer, D. (1999). Job satisfaction: Putting theory into practice. *Family Practice Management*. Retrieved May 2, 2010, from <http://www.aafp.org/fpm/991000fm/26.html>
- Takhar, S. S. (2004). The 5S's [Electronic version]. Retrieved July 16, 2004 from <http://www.ecommerce-now.com/images/ecommerce-now/the5S's.htm>
- Tichy, N.M. (1983), *Managing Strategic Change: Technical, Political and Cultural Dynamics*, Wiley, Chichester, NY.
- Thomas R. Pomorski, 2004. Brooks Automation, Inc. *Total Productive Maintenance (TPM) Concepts and Literature Review*
Available at: <http://www3.brooks.com/tmp/2110.pdf>
- Warwood, S.J. and G. Knowles, 2004. An investigation into Japanese 5-S practice in UK Industry. *TQM Mag.*, 16: 374-353. DOI: 10.1108/09544780410551287
- Weiss, Joseph. (1967). The Integration of Defences. *The International Journal of Psycho-Analysis*. Vol. 48, Part 4.
- Wright, T.A., & Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology*, Vol. 83, pp. 486-493.
- Zhang, Z.H. (2000), "Implementation of total quality management: an empirical study of Chinese manufacturing firms", PhD unpublished thesis, University of Groningen, Groningen.

Internet Sources :

Focused Performance, *TOC and Six Sigma -- Better Together* [Online]

Available at: <http://www.focusedperformance.com/articles/tocsigma.html>

[Retrieved Feb 3 2011)

<http://www.learn4success.net/5s/page14a.html>

<http://ezinearticles.com/?Using-5S-to-Increase-Performance-in-the-Workplace&id=4588903> by
Brid Alvord

Oee, 2006. What we do [Online]

Available at: http://www.oeek.com/what/manufacturing_measure.html#basics

[Retrieved Feb 3 2011].

U.S. environmental Protection Agency. *Total Productive Maintenance (TPM)* [Online]

Available at: <http://www.epa.gov/Lean/thinking/tpm.htm> [Retrieved Feb 3 2011].