

# Agility Barriers Analysis in the Malaysian Palm Oil Industry

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**Abstract** - In a volatile global marketplace, the implementation of agility is viewed as fundamental key strategic consideration for the survival. In order to achieve competitive advantage and ready to adapt to potential changes, implementation of agility in the palm oil industry is considered to be major challenges due to different obstacles. However, these obstacles can be overcome with the implementation of a proper strategic decision as well as high commitments from all management levels to make changes in day-to-day activities. The main purpose of this study is to investigate the obstacles in implementing agility in the Malaysian Palm Oil Industry (MPOI). The survey was conducted in Peninsular Malaysia with 69 oil palm plantation estates. The mean ranking analysis was used to ascertain the rank of various agile statements for its implementation in the organization. The study revealed that strict budget was the biggest obstacle along with laid back attitude of the employee for implementing agility in the organization. The outcomes of this research provide an invaluable information to all strategic decision makers who desire their organizations to be an agile and be competitive in the market and to sustain in today's competitive market as well as to maintain its dominant position in the world market.

**Keywords:** Agility, Malaysian Palm Oil Industry, Barriers, Knowledge

## 1. Introduction

In today's scenario, doing business has been a major concern about the changes that have forced the organization to rethink about how to do business. Change is something that is not periodically, but it is a continuous process for constant improvement with the implementation of the strategy. To succeed in getting sustainable success in today's and in the future, the organization needs to have an ability to adapt to changes. The organization needs to capitalize and anticipate the changes happen and needs to keep the business grow with customer's satisfaction. To achieve these goals, the organization should implement agility from strategy to design, people, and process with the support of technology. Therefore, the companies in order to survive

in the complex scenario, it must get back with the business agility blueprint that can drive decisions about people, process, and technology. Significant changes can support and develop alternative business models in the markets. This will lead the industry like the Malaysian Palm Oil Industry (MPOI) to implement quickly and response to the markets without splitting apart the infrastructure or dwindling the efficiencies that will make the challenges for the industry to be even greater. Hence, the MPOI for both the upstream and downstream are capable of staying competitive and to adapt the changes in this business scenario.

In order to achieve and maintain its position, the MPOI should implement and practice agility principles. Agility will help the industry to improve the process activities and to reduce waste in order to satisfy all the stakeholders in the supply chain. Implementation of agility principles and practices have become an important issue in order to meet the demands of customer at a very short delivery time and to ensure that supply can be synchronized with the demand for this time-bound competition. Agility is defined as "a means of using market knowledge and a virtual corporation to exploit an opportunity in the volatile marketplace" [1] pp.315. It is also referred to sensing and respond to change. Agility embraces for organizational structure, information systems, logistics process, and employee mindset [2]. Agility should not mix up with leanness process because of leanness is done with less and often implied for zero inventory with just in time approach. Leanness can be an element of agility in most of the circumstances, and it depends on sufficient knowledge to respond to change. One can think that agility can enlighten every aspect of decision-making, activity, and structure as many companies are turning towards agility in one or the other way with fast changing requirements.

The highest level of obstacles for Malaysian companies in implementation and change for the improvement program is a lack of expert employees and lack of awareness [3]. However, some Malaysian companies even do not believe that continuous program can improve their efficiency as the companies do not have proper direction and guidelines from the company headquarter (HQ) and from the government side [3]. Thus, the purpose of this paper is to investigate the barriers that have been faced by the MPOI to implement agility practices. This research is

an attempt to answer the research question on what are the barriers while implementing agility in the MPOI.

## 2. Literature Review

Agility is referred to as capability of the organization to respond quickly in accordance with the dynamic demands of the customers [4]. The success of an organization to be agile is to understand the internal and external activities that can accomplish the realization of the customer's needs and customer's satisfaction across the network. While achieving the highest level of the organization, an agile organization will possess a clear, shared understanding of which business processes are at their core activities to serve the customers. This will enable the business to develop the organization design and be adaptive with efficient operations as well as maintain a high level of responsiveness to achieve agility and to remain competitive in the global marketplace [5]. [6] indicated that agility not only represents techniques, but also represents the fundamental changes in the production and management philosophies. The management able to develop strategies for agility and respond quickly to the customer demands. However, one will not be able to respond quickly if lack of agility strategies. Agility is acknowledged as the critical factor for competitive advantage. Besides, with the agility strategies embedded in the organization, it improves the organizations in dealing with the uncertainty of the market environment. Thus, the agile organisation is required to quickly satisfy the needs of the customers and get into the strategic alliance with the trading partners [7].

The interest in performing the organization performance has led the researchers to focus on agility [8] and become highly competitive [7]. Thus, it is highlighted the key trend that the manufacturers are aware of the organization to be agile. Agility has been advocated as business paradigm of the 21<sup>st</sup> century and is considered as the strategy for becoming a global leader in the competitive market for quick customer requirements. The blueprint from ability to agility is not developed rapidly with the development of technology to manage an agile organization. Thus, to embrace agility, there are many questions have been raised. However, the major question is to identify the benefits of agility implementation and the other major question asked is what would be the obstacles that the organization faced in the implementation of agility if the organization wants to enhance its performance?

The goal for an agile organization is to enrich customer demands and increase its efficiency. Hence, many organizations around the world have been attempting to implement agile concepts in the organization to increase the performance [4]. The current highly dynamic business environment requires businesses to be agile [8]. Hence, for obtaining an organization to be a high performing organization, it would be better for an organization to be agile. Moreover, to make the organization to be agile, it

would be better to illustrate towards identifying agile barriers.

## 3. Methodology

The samples for this study were obtained from the Malaysian Palm Oil Board (MPOB) 2014 Directory. The companies that used for data collection were oil palm plantation estates located across Peninsular Malaysia. The respondents were plantation managers from the plantation estate who are considered as an appropriate respondent to answer the survey as they have first-hand knowledge and have direct access to the plantation process.

Stratified random sampling method was used to collect the data. The questionnaire consisted of three sections. The first section was developed to obtain general information of the respondents and the company. This includes types of organization the respondents are working, current position level, years of experience, and company ownership. The second section of the questionnaire dealt with understanding the concept of agility. In the third section of the questionnaire, 15 items to determine the barriers faced by the organization in implementing the agile principles were developed. Seven-point Likert scales were developed to measure the barriers items to implement the agility in the organization with '1' indicating 'strongly disagree' and '7' indicating 'strongly agree'.

The questionnaire was tested for reliability using Cronbach's alpha coefficient, which to measure the internal consistency of the research instrument. Result in Table 1 showed that it has high internal consistency with coefficient alpha 0.932 and is reliable for 15 barrier items.

**Table 1:** Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.932	0.932	15

## 4. Results and Discussions

The sample population was used from the registered plantation estates with the Malaysian Palm Oil Board (MPOB) 2014 Directory. A total of 110 structured questionnaires were sent to the plantation managers through email and postal across Peninsular Malaysia. A total of 91 completed questionnaires were returned but only 69 were used for data analysis.

### 4.1 Company Profiles

Descriptive statistics were performed to find out the information about the respondent and its distribution. Table 2 shows the statistics for the respondents and companies. About 42% of the respondents were from Pahang state and 43.5% of the managers had an

experience in the current position from 1-5 years, and around 66.7% were in the position as plantation managers. Majority of the respondents (82.6%) were from small companies, whereas 17.4% of the respondents were from medium sized companies. According to guidelines from the secretariat of the National SME Development Council

Malaysia 2013, a full-time employee from 5 to less than 75 is kept in the category of small scale companies and those companies having full-time employees from 75 to not exceed 200 is medium sized companies [9]. In addition, 100% of the companies were locally owned companies.

**Table 2:** Profiles of the Company

Characteristics	Frequency (n=69)	Percentage (%)
<i>State</i>		
Kedah	3	4.3
Kelantan	1	1.4
Malacca	2	2.9
Negeri Sembilan	11	15.9
Pahang	29	42.0
Perak	11	15.9
Selangor	4	5.8
Terengganu	8	11.6
<i>Size of Company</i>		
Small Company	57	82.6
Medium Company	12	17.4
<i>Company Ownership</i>		
Local Company	69	100
<i>Years of Experience (Current Position)</i>		
1-5	30	43.5
6-10	20	29.0
11-15	7	10.1
16-20	5	7.2
21-25	1	1.4
26-30	5	7.2
31-35	1	1.4
<i>Designation (Current Position)</i>		
Plantation Manager	46	66.7
Area Manager	23	33.3

#### 4.2 Barriers to Implement Agility

The analysis summarized in Table 3 indicates the difficulties experienced by the MPOI in implementing agility. In order to explore the barriers faced by the company, the respondents were asked to consider the barriers that they felt were the greatest obstacles from their experiences in the structured questionnaire. Before performing the mean analysis, the data was tested for normality and found that almost all the Likert data were normalized using the  $Z_{skewness}$ . According to [10], for medium sized samples ( $50 < n < 300$ ) that if the absolute value of  $Z_{skewness}$  is less than 3.29 at  $p < 0.05$  the distribution of the sample to be normal. The mean scores for the agility barriers questions ranged from 3.25 for staff resistance to 4.57 for strict budget, and the standard deviations is less than 1.86.

The mean analysis results suggested that the respondents had a view that strict budget was the highest obstacle towards implementing agility principles in order to have a competitive advantage as an established industry (mean score of 4.57). Laid back attitude of employee as the second highest obstacles (mean score of 4.46), followed by lack of understanding between internal and external activities (mean score of 4.30), slow decision making process (mean score of 4.29), wait and see syndrome (mean score of 4.28), effects of organization interest (mean score of 4.10), organizational structure and culture (mean score of 4.09), poor supply chain management planning and understanding (mean score of 4.03), and lack of trust (mean score of 4.03) were the major obstacles for implementing agility in the organization.

**Table 3:** Mean Score for Barriers to Implement Agility

Rank	Barrier	Mean*	Std. Deviation	Skewness		
				Statistics	Std Error	Z <sub>Skewness</sub>
1	Strict budget	4.57	1.819	-.531	.289	-1.839
2	Laid back attitude of employee	4.46	1.803	-.358	.289	-1.239
3	Lack of understanding between internal and external activities	4.30	1.692	-.459	.289	-1.589
4	Slow decision making process	4.29	1.716	-.251	.289	-.870
5	Wait and See syndrome	4.28	1.714	-.137	.289	-.474
6	Effects of organization interest	4.10	1.573	-.336	.289	-1.163
7	Organizational structure and culture	4.09	1.634	-.227	.289	-.787
8	Poor supply chain management planning and understanding	4.03	1.723	-.099	.289	-.344
9	Lack of trust	4.03	1.723	-.011	.289	-.037
10	Lack of supply chain measurement	3.99	1.649	-.057	.289	-.198
11	Lack of competent staff	3.90	1.808	.002	.289	.006
12	IS/IT deficiencies	3.67	1.729	.202	.289	.699
13	Lack of alliance guidelines	3.54	1.762	.245	.289	.850
14	Top management low commitment	3.45	1.867	.389	.289	1.347
15	Staff resistance	3.25	1.744	.586	.289	2.028

Note: \*1=strongly disagree; 2=disagree; 3=somewhat disagree; 4=neither disagree or agree; 5=somewhat agree; 6=agree; 7=strongly agree

There was a problem to change the attitude of an employee and be procrastination the work. Therefore, it required a considerable amount of effort from the top management to create an environment to complete the work at the right time and even top management should make the decision-making process to be simpler and faster. In the questionnaire, the respondents were also asked to rate their knowledge on agility and the results from Table 4 showed that 84% of the respondents indicated that they have an outstanding knowledge on agility while only 16% said that they have a fair knowledge on agility. However, it was found that a lack of understanding was one of the five top barriers in implementing agility.

**Table 4:** Respondent's Knowledge on Agility

Characteristics	Frequency (n=69)	Percentage (%)
<i>Knowledge on Agility</i>		
Un-Satisfaction	1	1.4
Poor	1	1.4
Fair	9	13.2
Good	41	59.4
Very Good	14	20.3
Excellent	3	4.3

## 5. Conclusions

The survey on the Malaysian palm oil industry (MPOI) was done with the purpose to identify the obstacles that the industry is facing for implementing the agility principles in the companies. The result shows that the highest barriers to implement the agility principles are strict budget, laid back attitude of the employee, lack of understanding between internal and external activities, and slow decision-making process. The major problems for any change for the betterment of the company are due to an employee attitude as well as improper knowledge about the work activities. Therefore, management should try to motivate the employees to overcome the attitude of keeping the work incomplete and develop a proper key performance index systems and make sure that the employees understand as how it is being assessed. Management should improvise the process of decision-making and conduct an orientation program for old and new employees at least once in a year to enhance the knowledge. Upgrading the knowledge of the employee will help the companies to be more competitive in the market and will be able to sustain for a longer time.

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## References

- [1] Hartványi, T., & Nagy, Z.A., "Agility in supply chains." Acta Technica Jaurinensis Series Logistica Vol. 1, No. 2, pp. 315-323, 2008.
- [2] Manzouri, M., Abd. Rahman, M.N., Arshad, H., & Ismail, A.R., "Barriers of supply chain management implementation in manufacturing companies: a comparison between Iranian and Malaysian companies." Journal of the Chinese Institute of Industrial Engineers. Vol. 27, pp. 456-472, 2010.
- [3] Matwale, C.R., Datta, S., & Mahapatra, S.S., "Supply chain agility assessment module in fuzzy paradigm." National Conference on "Recent Trends in Operations and Supply Chain Management" Retrieved from <http://hdl.handle.net/2080/1747>, 2012.
- [4] Garbie, I.H., "Implementation of agility concepts into oil industry." Journal of Service Science and Management, Vol. 4, No. 2, pp. 203-214. 2011. doi:10.4236/jssm.2011.42024.
- [5] Gunasekaran, A., Tirtiroglu, E., & Wolstencroft, V., "An investigation into the application of agile manufacturing in an aerospace company," Technovation, Vol. 22 No. 7, pp. 405-415, 2002. doi:10.1016/S0166-4972(01)00039-6.
- [6] Van Oosterhout, M., Waarts, E., & van Hillegersberg, J., "Change factors requiring agility and implications for IT." European Journal of Information Systems, Vol. 15, No. 2, pp. 132-145, 2006.
- [7] Yusuf, Y. Y., Musa, A., Dauda, M., El-Berishy, N., Kovvuri, D., & Abubakar, T. "A study of the diffusion of agility and cluster competitiveness in the oil and gas supply chains". International Journal of Production Economics, Vol 147, 498-513, 2014. doi:10.1016/j.ijpe.2013.04.010.
- [8] Yang, Jie. "Supply chain agility: Securing performance for Chinese manufacturers." International Journal of Production Economics Vol. 150, 104-113, 2014.
- [9] SME Corporation Malaysia 2013. "Guideline for new SME definition." Economics & Policy Planning Division, pp. 1-12, 2013.
- [10] Kim, H.Y., "Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis." Restorative dentistry & endodontics, Vol. 38, No. 1, pp. 52-54, 2013.