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Organisational Agility in Malaysia's IT Business Organisations

Yamin Kamis[1], Aumuhaimi Md Yusof[2]

[1] Faculty of Information Management, UiTM Cawangan Selangor, 40150 Shah Alam, Malaysia
[2] Royal Malaysian Customs Department, Putrajaya, Malaysia

yamin@uitm.edu.my, aumuhaimi.yusof@customs.gov.my
Tel: +60192532050

Abstract
This study examines the perceived level of OA of Malaysia's IT-based business organisations. Quantitative method research has been employed in this research and was conducted throughout Malaysia with a total of 250 valid questionnaires obtained from managers and executives of the Multimedia Super Corridor (MSC) status companies. Using the statistical software SPSS version 28.0, the mean, standard deviation, minimum value and maximum value of each indicator were examined. It was discovered that all mean values for indicators were above the mid-point value, indicating the acceptable value from the respondents.

Keywords: Organisational Agility, MSC status companies, Descriptive analysis, Agile organisations

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1.0 Introduction

Businesses have been urged to be adaptable in response to the ever-shifting conditions of the market as well as the ever-rising expectations of their customers. For this reason, businesses need to be based on fundamental tenets that will enable them to endure in today's turbulent and competitive climate. Organisational Agility (OA) is a term that describes the essential ability of an organisation to compete and thrive in an unstable business environment (Munteanu et al., 2020). OA allows businesses to detect and seize opportunities and tackle threats more quickly than competitors (Sull, 2009; Trinh-Phuong et al., 2012; Gerald et al., 2020).

Significantly, the literature conceded that OA is increasingly recognised as both critical to business success and growing in importance and linked OA as a key business factor and an enabler of competitiveness for organisations (Mathiassen & Pries-Heje, 2006; Ganguly et al., 2009). Facilitating the development of relevant information and technology is expected to improve efficiency and increase the effectiveness of organisational services. Information systems and technology have the main role in achieving this objective. In this spectrum, information technology (IT) is perceived as having an essential role in Agility and is often regarded as an enabler for efficient information flows within the organisation to support the provision of good business decision-making (Yousif & Pessi, 2016; Queiroz et al., 2018; Zaini et al., 2020).

On the other hand, OA will be more important for Malaysia's various business organisations as digital technology becomes more widely adopted. IDC Malaysia International (IDC Malaysia, 2019) has predicted that by 2023, 70% of all IT spending in Malaysian business organisations will be on computing platform technologies, as over 50% of all enterprises build "digital-native" IT environments to thrive in the digital economy, with an estimated RM5 billion in investment by the Malaysian government. Millions of devices are anticipated to be connected to this digital ecosystem, which will likely encourage the widespread use of ICT across all facets of the Malaysian economy.

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The implementation of technologies throughout ecosystems showed potential and suggests that many IT business organisations are likely to profit from the development of digital ecosystems.

2.0 Literature Review

When the business environment is characterised by uncertainty, Agility is a key trait that may help an organisation function at its best. Researchers have used the idea of "agility" as "dynamic organisational skills" to measure competitive-based performance by a company's ability to notice and respond to changes in the market environment. It has been done in a variety of contexts. For instance, Horlach et al. (2020) assert that dynamic business environments have called for organisations' OA to be able to sense changes in competitive environments and respond appropriately. They define OA as being able to sense changes in a competitive environment. Attar et al. (2020) asserts that organisations need to fully embrace and implement agility in their operations.

In many previous studies, OA has been emphasised in three important elements: customer agility, business partnering agility, and operational Agility (Sambamurthy et al., 2003; Lu and Ramamurthy, 2011; Roberts and Grover, 2012; Ghasemaghaei et al., 2017; Queiroz et al., 2018; Tallon et al., 2019; Zaini et al., 2020). Table 1 illustrates the most commonly used criterion in the literature on OA.

Table 1. Organisational Agility is a common criterion

Authors	Measures	Remarks	Application in Research
Sambamurthy et al., 2003	*Organisational Agility* Operational Agility Customer agility Partnering agility	A firm's IT competence provides it with digital options, which in the presence of entrepreneurial alertness allow firms to be agile	Zaini et al., 2020; Queiroz et al., 2018; Roberts & Grover, 2012; Tallon & Pinsonneault, 2011 Lu and Ramamurthy, 2011
Tallon & Pinsonneault, 2011	Firm Agility Customer agility Operations agility Partnering agility	Customer agility assesses the responsiveness to changes in demand, innovation, and pricing; business partnering agility assesses the adaptiveness of supplier network; and operations agility assess the response times to new product launches by rivals, market expansion, changes in product mix, and the adoption of new production IT	Zaini et al., 2020; Queiroz et al., 2018; Felipe et al., 2017

In short, from the analysis of the previous studies, Agility in the operational environment indicates that it is critical for an organisation's sensing response capability that operational data be gathered to find opportunities and applications of business processes to put priorities into action. Besides that, the capacity of an organisation to adapt to shifts in customer preferences and requirements entails customer agility traits. In this context, the capacity of an organisation to gather and respond to market knowledge about its consumers has been linked to the major idea of customer agility. In business partnering, Agility refers to the ability to discover and implement new business opportunities by leveraging business partners' knowledge, capabilities, and assets. Facilitating inter-firm collaboration by providing partners with the most up-to-date and complete information on the supply chain is of primary importance in this context. This paper focuses on "competitive capacities" as part of OA. Accordingly, its primary features are "operational ability-based," "customer orientation-based," and "business partnering-based."

3.0 Methodology

A quantitative research method has been employed in this research and was conducted throughout Malaysia with 250 valid questionnaires obtained from managers and executives of the Multimedia Super Corridor (MSC) status companies. Using the statistical software SPSS version 28.0, the mean, standard deviation, minimum value, and maximum value of each indicator were examined. This quantitative study employs a questionnaire as its research instrument. Adapted from the questionnaire of the previous research by Sambamurthy et al., 2003; Zain et al., 2005; Lu & Ramamurthy, 2011. Tallon and Pinsonnault, 2011.

This survey includes IT executives and managers from MSC-status companies. MSC Malaysia's status is conferred by the Malaysia Digital Economy Corporation (MDEC) to local and international ICT and ICT-facilitated firms that employ information technologies to manufacture and enhance their goods, services, and process development. MSCs have world-class physical and information infrastructure (MDEC, 2022). This research used the purposive sampling method to ensure the sample size was represented. Around the country, there were 2,500 companies with MSC status. Taking into account the size of the total population and the amount of error, which in this study is to be within 5 percentage points (with 90% certainty), the sample size calculator (Krejcie & Morgan, 1970) was used to figure out the required sample size, which was 249 in this case. 500 questionnaires were given to the people who filled them out. But only 260 questionnaires were filled out and checked. Another 230 questionnaires were non-responsive, and 10 questionnaires were rejected due to missing values.

Cronbach's alpha coefficients have been utilised to measure the reliability and internal consistencies of the scales used in the study. From the reliability analysis, all factors were found to have good reliability, with all the Cronbach's alpha results above 0.6, which indicated

the acceptable value of the reliability standard in the range of 0.807 to 0.948, indicating that the overall index of the internal consistency of the scale as a whole in the instrument is reliable, and importantly, there is no abnormality in the data at this initial stage.

4.0 Findings

The study results include a descriptive analysis of respondents' background and the perceived level of OA factors (Operational Agility (OAG), Customer Agility (CAG), and Partnering Agility (PAG)).

4.1 Descriptive Statistic of Respondents

The researcher collected the completed and valid responses from MSC status companies.The majority of respondents were from organizations established between 1 and 5 years (n = 90, 36.0%), followed by 6 to 10 years (n = 84, 33.6%), 11 to 15 years (n = 46, 18.4%), 25 years and more (n = 12, 4.8%), and 16 to 20 years (n = 9, 3.6%) and 21 to 25 years (n = 9, 3.6%). In addition, the data reveals the total number of staff members that answered from each organisation based on the size of the organisation. The majority of respondents came from companies with a staff size of between one and one hundred employees (n = 119, 47.6 per cent), followed by between one hundred and two hundred employees (n = 84, 33.6 per cent), between three hundred and four hundred employees (n = 19, 7.6 per cent), between two hundred and one hundred and fifty employees and above (n = 12, 4.8 per cent), and finally between three hundred and four hundred employees (n = 3, 1.2 per cent). Most responses were from IT/IS executives (40.8%), followed by business executives (34.8%), senior IT/IS executives (13.6%), senior business executives (8.0%), and high-level roles such as COO (0.8%) and CEO (0.4%). There were 140 more male responses than female responses (110) (44.0 per cent). The bulk of respondents were aged 30 to 39 (n = 129, 51.6%), followed by 20 to 29 (n = 97, 38.8%), 40 to 49 (n = 21, 8.4%), and above 50 (n = 3, 1.2%). Table 2 illustrates the demographic profiles of the respondents.

Table 2. Demographic profiles of the respondent

Categories		Frequency	%
Years of establishment	1 to 5 years	90	36.0%
	6 to 10 years	84	33.6%
	11 to 15 years	46	18.4%
	16 to 20 years	9	3.6%
	21 to 25 years	9	3.6%
	25 years above	12	4.8%
Total Numbers of Staff	1 to 100 staff	119	47.6%
	101 to 200 staff	84	33.6%
	201-300 staff	13	5.2%
	301 to 400 staff	19	7.6%
	401 to 500 staff	3	1.2%
	501 staff and above	12	4.8%
Positions	Chief Executive Officer	1	0.4%
	Chief Operating Officer	2	0.8%
	Vice President	4	1.6%
	Senior Business Executives	20	8.0%
	Business Executives	87	34.8%
	IT/IS Senior Executives	34	13.6%
	IT/IS Executives	102	40.8%
Demographics	***Gender***		
	Male	140	56.0%
	Female	110	44.0%
	Age		
	20 – 29 years old	97	38.8%
	30 – 39 years old	129	51.6%
	40 – 49 years old	21	8.4%
	50 and above	3	1.2%

4.2 Descriptive Analysis of Organizational Agility (OA) Construct

This part addresses the following research question: what is the perception of the OA level by Malaysian MSC-status companies. In this regard, the following section explores the descriptive profiles of each OA variable. Using the statistical software, the researcher used SPSS version 28.0 for each indicator to investigate the mean, standard deviation, lowest value, and maximum value. OA includes operational Agility, customer agility, and partnership agility. Customer agility (CAG) has an average mean of 5.82, partnership agility (PAG) has an average mean of 5.75, and operational agility (OAG) has an average mean of 5.73.

4.2.1 Perceived Level of Operational Agility (OAG)

OAG components such as operational process flexibility, scalability, market expansion and market change forecasting are part of the items shown in Table 3 descriptive profile. The researcher used four (4) items in measuring OAG altogether. The variable was measured using a 7-point Likert scale where the lowest 1 is denoted as 'strongly disagree' and the highest 7 is denoted as 'strongly agree'.

Table 3. Operational Agility Level

Items	Mean	Std. Error	Std. Dev.	Var.	Min	Max
My organisation can be flexible in operational processes	6.000	0.052	0.826	0.683	3	7
My organisation can quickly scale up and scale down production/services based on demand for the market	5.816	0.049	0.790	0.625	3	7
My organisation is able to expand into new regional or international markets quickly	5.708	0.050	0.800	0.641	3	7
My organisation can sense, perceive and anticipate market changes	5.432	0.064	1.020	1.042	3	7
Overall Mean Score of OAG variable	**5.739**					

N = 250
1 = Strongly Disagree; 2 = Sometimes Disagree; 3 = Disagree; 4 = Not Sure; 5 = Sometimes Agree; 6 = Agree; 7 = Strongly Agree

Among the OAG, flexibility was the most recognised agility attribute of MSC status firms, with a mean score of 6.00, while the ability to sense, perceive, and anticipate market changes was least regarded, with a mean score of 5.43. Scalability of production or services and market expansion were rated at 5.81 and 5.70, respectively. The high score for operational flexibility may be because these organisations rely heavily on technology. It enables them to be adaptable to the operating environment. It's also clear that most of these organisations are best at using the technologies, information assets, and resources around them to aid in strategic decision-making by scaling up and down production and services in pace with the market. The potential to develop regionally and globally demonstrates that these companies can quickly leverage their strategic business information. Market sensing, perception, and anticipation had the lowest mean. It indicates that some small and medium-sized businesses cannot completely integrate with cutting-edge technology that may give real-time data to forecast market developments.

4.2.2 Perceived Level of Customer Agility (CAG)

Table 4 exhibits the descriptive profile of four CAG items, i.e., customer needs discovery, key trends of the current market, the anticipation of customer needs, market expansion ability and reaction to fundamental changes in customers.

Table 4. Customer Agility Level

Items	Mean	Std. Error	Std. Dev.	Var.	Min	Max
My organisation is able to discover additional needs of our customers continuously	5.956	0.054	0.856	0.733	3	7
My organisation can identify key trends to gain insight into what the current market will need in the future	6.032	0.058	0.917	0.842	2	7
My organisation is able to anticipate customer's needs continuously	5.712	0.050	0.794	0.632	2	7
My organisation is able to react to fundamental changes with regard to customers quickly	5.612	0.046	0.742	0.552	3	7
Overall Mean Score of CAG variable	**5.828**					

N = 250
1 = Strongly Disagree; 2 = Sometimes Disagree; 3 = Disagree; 4 = Not Sure; 5 = Sometimes Agree; 6 = Agree; 7 = Strongly Agree

For CAG, four of their items have been descriptively analysed. The analysis found that the average mean score was 5.82, indicating high perceived value by these organisations. The highest score is for an item that postulates the ability of these organisations to identify the key trends concerning their customer preferences that allow them to gain insights into the current market. It is also in line with the previous agility traits that suggest the organisation's ability to capture all customer-related data and exploit the data strategically for their business. This eventually allows them to predict the current and future market for better delivery of products and services, excel in their business and outpace their competitors. The high perceived mean value for the other three items also suggests that many of these

organisations treat customer data as a valuable information asset because of its value to the business. Without adequate customer data, the organisation can't come to this effect. The ability to continuously discover additional needs of customers (mean 5.95), the ability to anticipate customers' needs (mean 5.71), and the ability to quickly react to fundamental changes about customers (mean 5.61) manifest the strong agility traits of these organisations, especially in this type of Agility.

4.2.3 Perceived Level of Partnering Agility (PAG)

A description of four PAG elements may be found in Table 5, which includes supply chain responsiveness, switching to better suppliers, cooperative relationships with suppliers, and reaction to supply chain disruptions changes.

Table 5. Partnering Agility Level

Items	Mean	Std. Error	Std. Dev.	Var.	Min	Max
My organisation is able to be responsive to the supply chain process	5.676	0.055	0.870	0.758	3	7
My organisation can easily and quickly switch suppliers for lower costs, better quality	5.680	0.065	1.030	1.062	2	7
My organisation can form cooperative relationships with suppliers	5.812	0.063	1.006	1.013	3	7
My organisation can quickly make alternative arrangements whenever there are disruptions in the supply chain	5.860	0.608	0.961	0.924	3	7
Overall Mean Score of PAG variable	**5.75**					

N = 250
1 = Strongly Disagree; 2 = Sometimes Disagree; 3 = Disagree; 4 = Not Sure; 5 = Sometimes Agree; 6 = Agree; 7 = Strongly Agree

With a mean score of 5.86, the most valued trait of this type of Agility was the ability to quickly make alternative arrangements when things arose in the supply chain environment. Other items show that the mean scores are in the middle range (5.67–5.81), demonstrating that most companies can adapt to their supply chain environment. Almost all of these organisations do very well in their supply chains by being able to sense threats and opportunities around them. This is shown by their ability to work with suppliers, switch suppliers easily and quickly for lower costs and better quality, and respond to supply chain systems. This also supports the ability of these organisations to use information about their supply chains to keep their businesses going and to be flexible in the environment.

5.0 Discussion

The study found that OA is becoming more obvious in Malaysian-based business organisations. It is indicated that most of these organisations have accepted OA as an important trait for competitiveness, especially in today's stiff market conditions. In this study, there are clear indications that most organisations perceive themselves as agile. From the descriptive analysis, all OA constructs received high average mean values, suggesting that Agility is present in their business operations. From the analysis, the average mean value of OA, comprised of OAG, CAG and PAG, indicates a mean value of between 5.73 and 5.82, indicating that the perceived level is quite high. As previously stated, these values are predicted to be influenced by the organisations' readiness to deal with the current state of unpredictable business conditions. Traits include flexibility, quickness, proactive anticipation, responsiveness, and awareness. There are several possible explanations for the high perceived value of Agility in research:

I. Opportunities to reach across boundaries and achieve effective globalisation have opened up for MSC status companies. Because of this, many of these MSC-status companies are adding Agility to their globalisation plans to be successful worldwide.
II. A large number of the participating companies are small and medium-sized businesses. Small and medium-sized businesses are less complicated and emphasise how well they do their jobs. This lets them be flexible, efficient, and responsive to their local clients.
III. At their current state, adoption rates of emerging and cutting-edge technology in many MSC-status companies are the keys to creating and sustaining Agility in the industry.

Overall, the analysis found that Malaysian IT business organisations exhibit OA features. Although few studies have been published on OA in Malaysia, this study confirms that many MSC-status organisations consider themselves agile and have incorporated OA qualities.

6.0 Conclusion

This study examines the perceived level of OA of Malaysia's IT-based business organisations. Three OA variables namely operational agility, customer agility and partnering agility were measured. Even though the findings confirms that OA are significant for their

businesses, the sampling was limited to MSC-status companies in Malaysia. With the growing numbers of new IT organisations, a further study could be conducted to examines a greater perspective. Apart from that, the research could also be expanded to other business areas such as manufacturing and digital marketing. The findings will benefit the future and current business setup to venturing in OA qualities.

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Paper Contribution to Related Field of Study

This research paper contributes to the field of Library and Information Management.

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