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# INFLUENTIAL FACTORS OF COMPETITIVE ADVANTAGE PROGRESSION ON THIRD-PARTY LOGISTICS IN SELANGOR MALAYSIA

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***Abstract:***
*Small and medium-sized enterprises (SME) of third-party logistics struggle to stay competitive and facing various pressure to stay competitive. One of the tactics to be competitive is to implement effective competitive measures. The purpose of this research was to explore the influential factors of competitive advantage on third-party logistics in Selangor Malaysia. Data collection included semi-structured questionnaires from 370 managers involved in logistics activities from the small and medium-sized enterprise manufacturing industries located in Selangor region. Data analysis was used to identify key influential factors of competitive advantage progression. Correlation and regression analysis were conducted to test the research hypotheses. The results reflect that competitive measures needed extensive attention to stay competitive in the market. Thus, third-party logistics needs to cultivate competitive advantage knowledge and other competitive measures that will drive the third-party logistics service uniqueness. The findings may contribute to social change by helping small and medium-sized third-party logistics to improve their survival rate and to create their firm's sustainable competitive capability and performance and as well provide solutions to challenges facing the third-party logistics.*

***Key words:***
*Competitive strategy, network structure, information technology, competitive advantage, customer relationship management.*

## INTRODUCTION

Third-party logistics usually act as liaisons amongst suppliers and customers in the supply chains [8]. SMEs in Malaysia has three size classifications based on a number of employees.

Micro companies employ less than 5 people, Small-sized enterprise employs 5 to 75 people and Medium-sized enterprise employ from 75 to 200 employees [30]. Selangor is considered as the largest region in term of SMEs in Malaysia with a total of 809,126 establishments which consist of 19.8% overall [30]. Based on the 11th Malaysia Plan (11MP), the target GDP contribution of SMEs needs to be increased to 41% in the year 2020 and the annual growth of SMEs is around 8.7% [28]. Logistics and supply chains activities are very important to Malaysia's economic growth. Moreover, third-party logistics activities in Selangor are considered as the backbone in the growth of industries economic sustainability and it is a primary sector in the logistics industry to drive trade and market development and business performance. Logistics activities are the main factor to drive Selangor's trade economic growth through effective logistics strategies, logistics networks and logistics technologies in their business. The use of third-party logistics in Selangor has increased due to the growth in global trade activities. The growth is accompanied by an increase in freight transport and an increasing demand for logistics services in general, it means logistics is playing a vital role in global economies today [29].

A total of 31% of logistics users in Malaysia were engaged with international logistics firms while 21% are engaged with local ones. International logistics firms are favoured because of their global recognition, better network coverage, service credibility and most importantly their ability to provide integrated supply chain services to end users. Despite all these, sensing the potential of the third-party logistics sector, many global logistics players are also entering the logistics market through direct investments, acquisitions and alliances to establish their business due to rapid growth in the small and medium-sized enterprises (SMEs) manufacturing industries in Selangor [17].

Despite the growing trend of logistics activities, there are very limited sources of literature on SME third-party logistics Thus, in-depth research in the area of influencing factors of competitive advantage progression on third-party logistics is still lag. Very few studies have focused on this area and most of the studies are focused on the logistics industry's overall performance and cost, capability and efficiencies, effectiveness and competency, etc. Thus, small and medium-sized enterprises (SME) of the manufacturing industries due to their significant economic weight, flexibility, innovation and fast decision-making represent a frequently-researched area. Unfortunately, the same is not true of the SMEs of SME third-party logistics, about which very few researchers are available in Malaysia. SMEs manufacturing industries in Malaysia are frequently of the opinion that logistics may be treated as something of secondary relevance and transportation, warehousing and materials handling are to be regarded as a necessity. The appearance of the logistics practice of large companies among the small and medium-sized enterprises becoming part of their everyday practice, awakening the SMEs manufacturing industries from their logistics slumber. Furthermore, it is an attempt to show that paying more attention to this area might enhance the third-party logistics competitive capabilities.

The research problem arises from the increasing use of third-party logistics due to the heavy reliance on e-commerce in sales nowadays. Such increasing demand by e-commerce was not met by efficient and reliable logistics services, which caused a negative effect on the third-party logistics services delivered to customers in several ways and by that negatively impact the third-party logistics to stay competitive in the market and to achieve competitive advantage. Therefore, it becomes urgent to provide competitive knowledge in several areas to be able to use and stay competitive, minimise areas causing dissatisfaction to customers and improve to gain competitive advantage. In this study, we argue that a third-party logistics' decision to adopt competitive advantage measures is driven by the firm's competitive measures. The literature

supports that firms which are well equipped with competitive knowledge are capable to achieve competitive advantage [10]. Motivated by these issues, the research aims to investigate influential factors of competitive advantage on third-party logistics and the impact of such factors on third-party logistics survival. Therefore, this research aims to figure out areas of competitive measures highly recommended by the logistics users in Selangor and provide solutions to challenges facing the third-party logistics. Findings of this study could assist logistics managers and logistics practitioners and entrepreneurs in formulating strategies and capitalise the benefits of adopting competitive measures. Based on these arguments, this study posits that:

H1: There is a significant relationship between competitive strategy and competitive advantage progression.

There are empirical studies justifying the importance of competitive strategy as a long-term plan in order to gain a competitive advantage over its competitors in the industry. It is aimed at creating a defensive position in an industry and generating a superior return on investment [22]. Competitive strategy implementation in logistics operations requires firms to be prepared in financial resources since it tenders investments in people and technology. Following this trait, this study posits that:

H2: There is a significant relationship between network structure and competitive advantage progression.

In this study, we refer network structure construct as the degree to which a firm is affected by competitors in the industry. Competition drives firms to embark on innovative strategies to maintain competitive advantage [22]. By adopting network structure to manage their business operations, third-party logistics providers may leverage new ways to outperform their rivals through improved and better coordination of the flow of products along the supply chain [14]. Therefore, this study posits that:

H3: There is a significant relationship between information technology and competitive advantage progression.

The relationship between information technology and competitive advantage progression lies in the firm's size. In general, larger firms may have more resources which make them more effective users of technology. Information technology is susceptible to imitation and the first-mover advantage tends to diminish quickly with rapid technological changes. Therefore, firms require substantial resources to continuously invest in advanced technologies to gain a competitive advantage. A firm's strategic orientation on information technology developments cannot be manifested across the firm if the managers do not support and become involved in the planning and management of technology [26]. Following this trait, this study, therefore, asserts the following hypotheses:

H4: Customer relationship management significantly moderates the relationship between competitive strategy, network structure, information technology and the firm's competitive advantage progression; specifically the relationship will be stronger for firm's who enhance customer relations than non-customer relations firms.

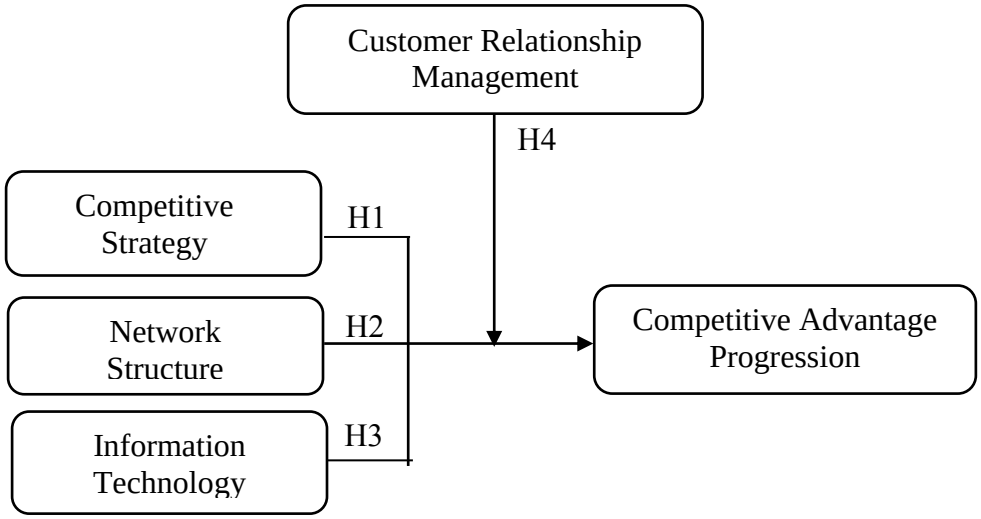


***Fig.1*** *Research framework*
*Source: (Adopted for this study)*

## 1. METHODOLOGY

### 1.1 Data Collection

This study utilised a survey questionnaire to test the model developed. The sample was drawn from the Federation of Malaysian Manufacturers Industry Directory 2017 [7]. This final list is represented by SMEs manufacturing industries in Selangor. Questionnaires, including a cover letter self-personal administered to the human resources and logistics managers. Of the 500 questionnaires sent out, 375 were returned, which excludes five incomplete surveys. This resulted in a 74 percent response rate.

### 1.2 Operationalization of Constructs

Most of the constructs are established measures from previous studies and they have been adapted to the context of this study. All items were measured using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was developed based on logistics studies in Malaysia and the logistics industry's expert's review. The construct was measured using four competitive components with 40 items. The competitive strategy comprised of sixteen items adapted from Kazan et al. [15] and Phusavat and Kanchana [23], network structure comprised of eight items adapted from Snow and Fjeldstad [31], information technology comprised of eight items adapted from van Riel, Allard, and Gummerus [32], customer relationship management comprised of eight items adapted from Bull [4], and competitive advantage progression comprised of eight items adapted from Molina, Pino, and Rodriquez [19], reflecting the degree of competitive measures and the resulting success. All these items measured the extent to which respondents perceived the influential factors of competitive advantage, as well as their level of agreement to stay competitive. Respondents were asked to indicate the proportion of influential factors relating to the four components. We evaluate the competitive advantage of influential model based Braslina et al. [3]. A total of 94.1% from 370 respondents from the context of origin of the company represented by locals, 85.4% represented by managers, in term of work experience 48.9% has 3 to 4 years of work

experience, 36.5% has 5 years and above work experience and 14.6% with 1 to 2 years of work experience. Based on the respondent's company's representation, 34.9% represents micro firms, 49.5% represented small-sized enterprise and 15.7% medium-sized enterprise. On the contrary, small-sized enterprises were the highest respondent's representation. Thus, there was an excellent mix of representation. Table 1 presents the sample's characteristics.

***Tab.1*** *Sample Characteristics*

| Description | Frequency | Percentage |
|---|---|---|
| Origin of the Company | | |
| Local | 348 | 94.1% |
| International | 22 | 5.9% |
| Company size | | |
| Micro | 129 | 34.9% |
| Small | 183 | 49.5% |
| Medium | 58 | 15.7% |
| Level of Position | | |
| Director/Board Member/Owner/Partner | 16 | 4.3% |
| Managing Director | 27 | 7.3% |
| Senior Manager | 11 | 3.0% |
| Manager | 316 | 85.4% |
| Work Experience | | |
| 1-2 Years | 54 | 14.6% |
| 3-4 Years | 181 | 48.9% |
| Above 5 Years | 135 | 36.5% |

*Source: (Adopted for this study)*

Figure 2 illustrates how the respondents reacted to outsource logistics activities to third-party logistics. Outsourcing logistics activities help to reduce logistics cost among manufacturing companies thus improving their core businesses and it requires consistency on customer satisfaction [24]. Five questions were asked to analyse the top priority of the responded satisfaction. These questions were based on a study conducted by Rahmat et al. [25]. Figure 2 presents the outsourcing logistics activity indicators.

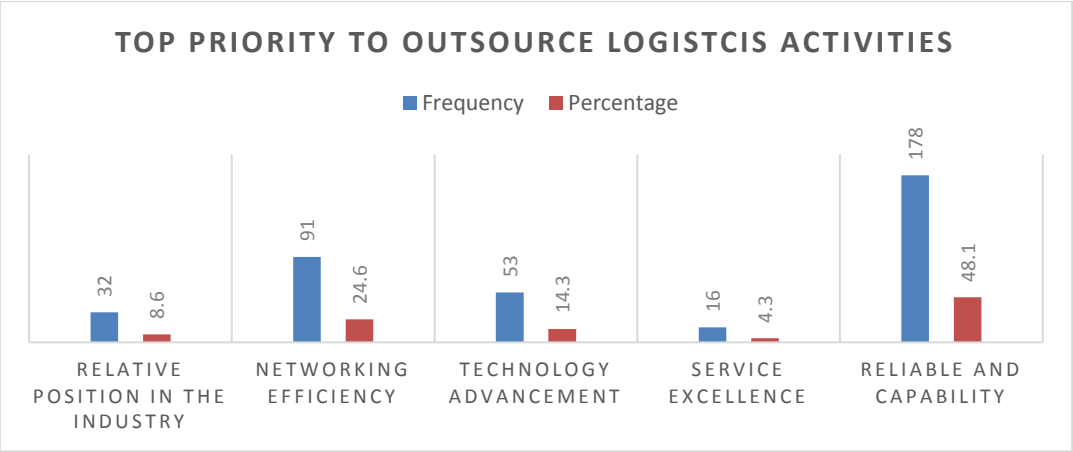


***Fig.2*** *Outsourcing logistics activity indicators*
*Source: (Adopted for this study)*

Figure 2 exhibits 48.1% responded 'reliable and capability' as the top priority to outsource the logistics activities, 24.6% responded 'network efficiency', 14.3% responded 'technology advancement', 8.6% responded 'relative position in the market', and 4.3% responded 'service excellence'. This information gathered to provide clear awareness to logistics providers on the selection and priorities to outsource logistics activities to a third-party logistics provider. It is essential for logistics managers to adhere customer's preferences in order to stay competitive in the extensive logistics market in Selangor.

## 2. DATA ANALYSIS /FINDINGS

Table 2 illustrates the descriptive statistics of measurement items based on the mean. All items which were used to measure the competitive strategy, network structure and information technology had mean scores of between 3 and 4, indicating that majority of the respondents were agreeable to competitive strategy, network structure and information technology items were essential to competitive advantage progression and demonstrate the relatively high level of competitive measures. In general, third-party logistics faced substantial competitive pressure from the industry, therefore competitive measures need considerable attention in order to stay competitive in the market and there is a need for competitive knowledge, skilled expertise and greater interaction between third-party logistics and supply chains [13].

***Tab.2*** *Descriptive Statistics of Measurement Items (Based on Mean)*

| Item | Description | Mean | Std. Deviation | Rank |
|---|---|---|---|---|
| | Comeptitive Strategy | | | |
| *Quality* | | | | |
| CS1 | Offers highly reliable services | 3.63 | 0.896 | 4 |
| CS2 | Offers high-performance services. | 3.86 | 0.844 | 2 |
| CS3 | Focus on conformance to specifications. | 3.67 | 1.064 | 3 |
| CS4 | Often meets the logistics service requirements | 3.99 | 0.702 | **1** |
| *Cost* | | | | |
| CS5 | Efficient in decreasing logistics services set-up time. | 3.82 | 1.034 | **1** |
| CS6 | Efficient in logistics cost reduction planning. | 3.71 | 1.050 | 2 |
| CS7 | Efficient in decreasing the operation cost. | 3.26 | 1.097 | 4 |
| CS8 | Efficient in decreasing logistics labour cost. | 3.39 | 0.898 | 3 |
| *Delivery* | | | | |
| CS9 | Efficient in taking and delivering orders. | 4.02 | 1.087 | 3 |
| CS10 | Efficient to increase reliability. | 4.09 | 0.812 | **1** |
| CS11 | Efficient to increase the rate of dependability. | 3.87 | 0.877 | 4 |
| CS12 | Efficient in doing fast logistics services. | 4.03 | 0.856 | 2 |
| *Flexibility* | | | | |
| CS13 | Produce additional task without major changeover. | 3.71 | 0.972 | 2 |
| CS14 | Provide broad range of logistics services economically. | 3.76 | 0.989 | **1** |

| | | | | |
|---|---|---|---|---|
| CS15 | Maintain performance standard during and after urgent services. | 3.53 | 0.905 | 4 |
| CS16 | Increases capacity and capability easily when needed. | 3.64 | 0.897 | 3 |
| | Network Structure | | | |
| NS1 | Communications: Very frequent interacts and shares quality information. | 3.69 | 0.711 | 3 |
| NS2 | Cooperation: Often plans in advance to offer the best logistics solutions. | 3.66 | 0.814 | 4 |
| NS3 | Dependency: Strong resources and capability to achieve client's business goal. | 3.78 | 0.797 | 2 |
| NS4 | Commitment: Strong desire to maintain a valuable business relationship. | 3.95 | 0.648 | **1** |
| NS5 | Relationship: Service contract are usually long-term. | 3.69 | 0.838 | 3 |
| NS6 | Trust: Reliable and a strategic partner sharing risks and benefits. | 3.61 | 0.643 | 5 |
| NS7 | Analysability: Able to cooperate and guided by standard work procedures, directives, rules, etc. | 3.46 | 1.117 | 7 |
| NS8 | Variety: Shares a variety of logistics ideas in the events that cause the work to complete. | 3.56 | 0.860 | 6 |
| | Information Technology | | | |
| IT1 | Supports our business strategies. | 3.49 | 0.914 | 7 |
| IT2 | Improve our process management. | 3.74 | 0.863 | 4 |
| IT3 | Improve our product/service offerings. | 3.65 | 0.905 | 5 |
| IT4 | Enable inter-department (cross-function) integration. | 3.58 | 0.982 | 6 |
| IT5 | Increased our operations mobility. | 3.82 | 0.982 | 3 |
| IT6 | Assists our staffs and managers to make more timely decisions. | 3.65 | 1.018 | 5 |
| IT7 | Able to improve quality assurance. | 3.90 | 0.949 | **1** |
| IT8 | Improve our business efficiency. | 3.87 | 1.044 | 2 |
| | Competitive Advantage Progression | | | |
| CA1 | Market share | 3.68 | 1.028 | 8 |
| CA2 | Profits | 4.25 | 0.623 | 3 |
| CA3 | Returns on investment | 4.12 | 0.618 | 6 |
| CA4 | Technological provision | 4.16 | 0.669 | 4 |
| CA5 | Operations management efficiency | 4.29 | 0.728 | **1** |
| CA6 | Quality of products-services | 4.26 | 0.696 | 2 |
| CA7 | Supplier loyalty and commitment | 4.14 | 0.831 | 5 |
| CA8 | Collaboration and partnership orientated | 3.92 | 0.796 | 7 |

*Source: (Adopted for this study)*

Table 2 results exhibit the respondent's indication to competitive advantage progression in the extensive and rapidly growing logistics market in Selangor. In the competitive strategy measures, on the *Quality* perspective 'Often meets the logistics service requirements'(CS4) is ranked first. The aim of the competitive strategy is to achieve a high degree of implementation of service delivery. Logistics service quality is the result received comparing customer's

expectations with customer's perception of service quality. Customer's prior to ordering the service, already have expectations of what the service provider should offer them. Therefore the quality of logistics service perceived by customers is the difference between the perceived service and expectation [5]. On the *Cost* perspective 'Efficient in decreasing logistics services set-up time' (CS5) is ranked first. At the present time, in the era of competition, there is a problem of integration of the logistics systems in cooperation. Moreover, there is a necessity to eliminate any time delays which may influence the added value of a product. Treating the supply chain disruptions as unexpected events occur, we can describe them as having uncertainty in supply chain operations. The critical factor which determines the logistic system failures is time. In a situation, when disruption (connected with e.g. improper delivery quality/quantity, improper location) occurs, there is a necessity to find out if we have enough time to correct the problem [2]. On the *Delivery* perspective 'Efficient to increase reliability' (CS10) is ranked first. Customers expect on-time deliveries and short delivery times with minimum cost, which in turn require high inventory service levels, flexible production, accurate demand prognoses and short lead and throughput times [12]. On the *Flexibility* perspective 'Provide broad range of logistics services economically' (CS14) is ranked first. In today's competitive environment, the pursuit of customer satisfaction highly depends on the logistics firm's overall service performance. According to Chee and Noorliza [6] satisfaction of customer's expectations affects business performance and encourages customer loyalty and it is key to supply chains to meet reduce the demand and needs of their customers.

In the network structure measures, 'Commitment: Strong desire to maintain a valuable business relationship' (NS4) is ranked first. The network structure is a number of sources, sinks and intermediate stations which are linked by physical objects. The material flows into the logistics network structure are initiated and controlled by data flows. Some data run together with the material flows, others are conveyed by separate data networks [9]. Mentzer et al. [18] noted customers are the most important part of any business of the service sector. Assessing this, it is important to keep in mind that the activity of the service sector-oriented exactly to the customers and its results directly dependent on customer choice.

In the information technology's measures, 'Able to improve quality assurance' (IT7) is ranked first. Everyone agrees that effective supply- chain management can provide a major source of competitive advantage. The goal of a supply chain manager must, therefore, be to link the end customers, the channels of distribution, the production processes and the procurement activity in such a way that customers′ service expectations are exceeded and yet at a lower total cost than the competition. One of the enabling factors for the achievement of this goal is the effective use of information technology [11]. The quality of information systems is becoming the concern of the users in different terms according to the type and importance of the information system. The most important objective is to design a system which satisfies the user requirements and performs the required tasks. In addition, the system must possess some features such as efficiency, accuracy, compatibility, flexibility, portability and acceptability.

In the moderator factor, the Competitive Advantage Progression's first ranked measures is 'Operations management efficiency' (CA5). According to the Experience Economy Pine and Gilmore [20] framework, today's customers want more than just high-quality goods and services. They want value from positive, engaging, memorable experiences along with high-quality goods and services. Value refers to the benefits the customer perceives he or she gets not only from the goods and service but also from interactions with people and places, which help shape the experience. Competitive advantage is a system possessing some exclusive value, giving it superiority over competitors in the economic, technical and organisational spheres of

activity, the ability to more effectively dispose of available resources. Competitive advantages make the company recognisable in the market, protect from the effects of competitive forces. Competitiveness is the result, fixing the presence of competitive advantages, without which it is impossible [33]. Atkinson [1] gives the following definition of competitive advantage. These are the characteristics, properties of the product or brand, which create for the firm a certain superiority over its direct competitors. These characteristics (attributes) can be very different and refer both to the product itself (the basic service) and to the additional services that accompany the basic, to the forms of production, sales or sales specific to the firm or product. This superiority is relative, determined in comparison with the competitor occupying the best position in the market or in the market segment.

We conducted the reliability test as an assurance that the competitive measures used in this research were accurate. Table 3 illustrates the reliability test results for Pilot Test and Actual Test. The Cronbach alpha reliability coefficients for the Pilot Test constructs ranged from 0.701 to 0.850. According to Klassen et al. [16], a value of 0.6 and above is an acceptable level for determining the scale consistency, and Sekaran [27] stated that the closer the alpha value to 1 the higher the internal consistency reliability. The Cronbach alpha appears to be widely utilised as a reliability test. Furthermore, this method assumes items have equal reliabilities and free from errors. The Cronbach alpha was used to identify the consistency of the "Goodness of data" and it is also called as "Inter-item" consistency reliability.

***Tab.3*** *Reliability Test*

| **Variables** | **Cronbach's Alpha Pilot Test** | **Cronbach's Alpha Actual Test** | **No of Item** |
|---|---|---|---|
| Competitive Advantage Progression | 0.711 | 0.816 | 8 |
| Competitive Strategy | 0.703 | 0.897 | 16 |
| Network Structure | 0.850 | 0.775 | 8 |
| Information Technology | 0.701 | 0.903 | 8 |

*Source: (Adopted for this study)*

Table 4 illustrates the multiple linear regression analysis whereby the competitive strategy, network structure and information technology have a significant p-value below 0.05. The Tolerance is close to 1 where the range is between (0.685-0.793), where it shows low multicollinearity. The VIF (Variance Inflation Factor) for all the predictors are below 10, as the rule of thumb, any VIF above 10 should be reinvestigated. From this multiple linear regression analysis, a linear regression of competitive advantage was formed and the formula is stated as below. The linear Regression equation for this study: $Y=3.042-0.053^{1}+ 0.151X^{2} + 0.079X^{3}$ (where $X^{1}$ is competitive strategy, $X^{2}$ is network structure, and $X^{3}$ is information technology). The model was found to fit the data well. Competitive strategy (B=-0.046; t=-0.79; p<0.43), network structure (B=0.104; t=1.669; p=0.096), information technology (B=0.07; t=1.197; p<0.232) were positively significant with competitive advantage progression. Thus, H1, H2 and H3 were supported. The moderating effect of customer relationship management H4 was analysed using PROCESS modelling analysis. The results generated for competitive strategy (t=1.0251; p<=0.3060) indicates the significance of the relationship, for network structure (t=4.6317; p<=0.000) indicates the significance of the relationship and for information technology (t=7.9639; p<= 0.0000) indicates the significance of the relationship. Thus, H4 was supported. In contrast, this study found that competitive advantage progression was significantly related to H1, H2, and H3.

***Tab.4*** *Multiple linear regression analysis*

| **Model** | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **Sig** | **Unstandardized Coefficients** | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 3.042 | 0.31 | | 9.823 | 0 | | |
| Competitive Strategy | -0.053 | 0.067 | -0.046 | -0.79 | 0.43 | 0.793 | 1.26 |
| Network Structure | 0.151 | 0.09 | 0.104 | 1.669 | 0.096 | 0.685 | 1.46 |
| Information Technology | 0.079 | 0.066 | 0.07 | 1.197 | 0.232 | 0.784 | 1.276 |

a. Dependent Variable: Competitive Advantage Progression

*Source: (Adopted for this study)*

## 3. DISCUSSION AND CONCLUSION

Despite the enormous advantages, however compare to firms in developed economies, the third-party logistics providers in Selangor is characterised by small to medium level of enterprises, and can't afford huge investment, maintenance and technology upgrade costs as well lack of awareness of logistics market development, skilled manpower, employees training etc., may prevent them from pursuing competitive measures to gain competitive advantage and as such they focus on specialised logistics services to survive. Third-party logistics can execute competitive measures at the same time being alerted with low customer relationship management practices by having a regular integration with supply chains, business partners, and relevant logistics associations and agencies.

This study extends our knowledge on the issues relating to competitive advantage progression of third-party logistics of an emerging economy. The research improves our understanding, by uncovering the existence of differences in the adoption patterns in different economic settings and levels of SMEs manufacturing sector's dependence on third-party logistics services. Consistent with prior empirical works, this study lends credence to competitive strategy, network structure, information technology adoption in the SME third-party logistics sector. While competitive measures appeared as a significant factor in determining the influential factors of competitive advantage on third-party logistics, most of the respondents have responded with positive feedbacks. Table 4 has described each item ranked, all items ranked third and above may deter from re-engineering the competitive advantage progression. Therefore, it is important to plan and consider the competitive items ranked in Table 4 and improve the elements stated in Figure 1 on top priority to outsourcing logistics activities in order to meet customer's preferences, satisfaction, product and service improvement and greater competitive capabilities and effectiveness.

This finding confirms that majority of the respondents agreed that competitive strategy does influence competitive advantage progression. Competitive strategy is normally high task demands by the user's management such information, collaboration, ad-hoc changes in scheduling, urgent deliveries, meeting datelines, availability of resources and sudden strategic changes. The competitive strategy is seen as a long-term objective of a particular firm in order to gain a competitive advantage over its competitors in the industry. It is aimed at creating a

defensive position in an industry and generating a superior return on investment and it can results in a competitive advantage in the marketplace [22]. Based on this study' analysis, there is a significant relationship between competitive strategy and competitive advantage.

In the network structure, the majority of the respondents agreed that it is an influential factor of competitive advantage progression. The result that came out from analysis shows that communications, cooperation, dependency, commitment, relationship, trust, analysability, and shares a variety of logistics ideas are important in the network structure. Third-party logistics services are more attractive when they meet the customer's expectation to achieve economies of scale. Furthermore, third-party logistics can even out demand variations between the different customers and thereby achieve high resource utilisation. Therefore, to determine the attractiveness of a third-party logistics in this respect for the SME manufacturing industries, one must decide whether the company can achieve sufficient economies of scale through an efficient network structure between both enterprises. Besides, considering efficient network structure, the users of logistics services would probably benefit from outsourcing their logistics activities.

In the information technology, the majority of the respondents agreed that information technology does influence competitive advantage progression. A number of studies have demonstrated various logistics benefits of having information shared with supply chain partners concerning logistics activities. This is because information resources are required to integrate suppliers, manufacturers, wholesalers, retailers, transportation carriers, logistics service providers, and final customers together. Information resources become costly to imitate when they are supported by proprietary technologies and require specific technical skills, and, in some instances, access to capital. Therefore, there is a significant relationship between information technology and competitive advantage progression. The use of technology is very common in today's business environment, especially in the logistics operations. Employees are required to update the operation schedule including the supplier's information and all other relevant details. In this point of view, a delay in delivery can cause bad results in competitive performance. Third-Party Logistics would find themselves in a situation where they have to meet their customer's request and demands, and the use of information technology is central to the logistics activities. If the use of information technology is insufficient or less then the employees of the Third-Party Logistics may find it difficult to monitor and control logistics goods movement and this may create errors and delays and frustration in the logistics operations.

This study recommends that third-party logistics should implement customer relationship management in their business practices and get the facts right the first time. Customer relationship management has been proven by researchers that the attraction of new customers is much more costly than the retention of customers, therefore, firms must have in place adequate measures and activities that are meant to enhance customer satisfaction and retain them while at the same time attracting others primarily through the use of word of mouth advertising. Indeed, all these activities can only be undertaken under an effective and adequate customer relationship practices. Further, this study recommends that third-party logistics must undertake continuous research to understand the expectations and needs of their customers and develop products and services that satisfy these needs. Finally, this study recommends that third-party logistics firms must enhance communication to enhance effective customer relationship management strategies in addition to the use of customer loyalty programs.

This study offers pertinent theoretical implications to the logistics competitive advantage literature. Our research extends the knowledge on the issues relating to competitive measures

adoption in third-party logistics sector of an emerging economy. Despite the existence of much literature to establish the significant benefits of competitive advantage in managing the logistics activities, is worth noting that third-party logistics providers from emerging economies tend to be laggards in terms of technology acceptance.

This study has several limitations, which must be taken into account in interpreting the results and their implications. Firstly, since this study was conducted in Selangor Malaysia, there may be particular characteristics relating to the SME manufacturing industries that might not apply to other regions, which may limit the generalizability of this study. A second possible criticism is a reliance on cross-sectional data. As such, the present study can only test associations between constructs. Since this type of research design measures the predictors and outcome at one point in a time, causality inferences are difficult to establish [21]. The study presented provides avenues for future research. The dimension of competitive measures should be examined in greater depth by extending the survey to a larger sample size from different sources of databases. Future studies should also incorporate perspectives from other developing countries to gain a wider understanding of this issue and to increase the generalisation of the findings. The study could be extended to other regions and comparisons made on their opinions to see whether they significantly differed from Selangor. More variables to be included in the study to give a stronger perception of competitive advantage progression.

The present study also has several important managerial implications. Despite the various potential benefits offered by technology, achieving such capabilities is not an easy task. Logistics managers in the local industry have to consider implementing competitive measures from a broader perspective to enhance their competitive capabilities and survival. Since the implementation of performance can easily be duplicated by competitors, the implementation of mature competitive measures in the local industry will eventually lead to insignificant competitive capabilities, hence suggesting a need for firms to contemplate on cutting-edge technologies, which have not yet diffused widely in the third-party logistics sector in Malaysia. This is pertinent since technology capability emerged as one of the important criteria for logistics users in making outsourcing decisions, causing this strategic move pivotal for the local third-party logistics sector to move forward.

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**References**

[1] Atkinson, R, D., 2013, "What Really Is Competitiveness? The Globalist, September 20," Available at: http://www.theglobalist.com/really-competitiveness/

[2] Bogataj L., Bogataj M., 2007, "The study of optimal additional investments in capabilities for reduction of delays in value chain," International Journal of Production Economics, 108: pp.281-290.

[3] Braslina, L., Viksne, K., Cumakovs, A., 2014, "Innovative competitive advantage determination model," Economic Science for Rural Development No," 35.

[4] Bull, C., 2003, "Strategic issues in customer relationship management (CRM) implementation," Business Process Management Journal, Vol. 9 Issue: 5, pp.592-602.

[5] Campos, D, F., No´brega, K, C., 2009, "Importance and the zone of tolerance of customer expectations of fast food services," Journal of Operations and Supply Chain Management, 2 (2), pp.56-71.

[6] Chee, Y, W., Noorliza, K., 2010, "Explaining the competitive advantage of logistics service provider: A resource-based view approach," International Journal of Production Economics, 128 (1), pp.51-67.

[7] Federation of Malaysian Manufacturers., 2017, "Malaysian Industries, 48th Edition," Available at: https://html5.dcatalog.com/?docid=4d5c2864-733a-44ab-a380-a7af0126bc06#page=0

[8] Forslund, H., 2012, "Performance management in supply chains: Logistics service providers' perspective," International Journal of Physical Distribution & Logistics Management, 42, pp.296-311.

[9] Gudehus, T., Kotzab, H., 2012, "Logistic Networks and Systems," Comprehensive Logistics," Springer-Verlag Berlin Heidelberg. 2nd Ed.

[10] Hertz, S., Alfredsson, M., 2003, "Strategic development of third-party logistics providers," Industrial marketing management, 32(2), pp.139-149.

[11] Hammant, J., 1995, "Information technology trends in logistics," Logistics Information Management, 8(2), pp.32-37.

[12] Holmbom, M., Bergquist, B. and Vanhatalo, E., 2012, "Performance-based logistics - An elusive panacea or a concept for the future?," San Sebastian, Spain, August 2011.

[13] Karia N., Wong, C, Y., 2012, "Explaining the competitive advantage of logistics service providers: A resource-based view approach."

[14] Karkkainens, M., 2003, "Increasing efficiency in the supply chain for short shelf life." goods, International Journal of Retail & Distribution Management,31, pp.529-536.

[15] Kazan, H., Ozer, G., Cetin, A., 2006, "The effect of manufacturing strategies on financial performance, " Measuring Business Excellence, 10(1), pp.14- 26.

[16] Klassen, A, C., Creswell, J., Clark, V, L, P., Smith, K, C., Meissner, H, I., 2012, " Best practices in mixed methods for quality of life research," Quality of Life Research, 21(3), pp.377-380.

[17] Malaysia Productivity Corporation., 2015, "Warehousing Economic Performance," Available at: http://www.mpc.gov.my/wpcontent/uploads/2017/03/CHAPTER-2-WS.pdf

[18] Mentzer, J, T., Flint D, J., Hult, T, M., 2001, "Logistics Service Quality as a Segment-Customised Process," Journal of Marketing: October 2001, 65(4), pp. 82-104.

[19] Molina, M, A., Pino, I, B., Rodriguez, A, C., 2004, "Industry, management, capabilities and firms' competitiveness: an empirical contribution, Managerial and Decision Economics, Vol. 25, pp. 265-281.

[20] Pine I, B., Gilmore, J, H., 1998, "The Experience Economy," Harvard Business Review, 76, p.176.

[21] Pinsonneault, A., Kraemer, K, L., 1993, "Survey research methodology in mana management information systems: An assessment," Journal of Management Information Systems, 10(2), pp.75-105.

[22] Porter, M, E., 1980, "Competitive Strategy: Techniques for Analysing Industries and Competitors," Free Press, New York.

[23] Phusavat, K., Kanchana, R., 2007, "Competitive priorities of manufacturing firms in Thailand," Industrial Management & Data Systems, Vol. 107 Issue: 7, pp.979-996.

[24] Qureshi, M, N., Kumar, D., Kumar, P., 2007, "Modelling the logistics outsourcing relationship variables to enhance shippers' productivity and competitiveness in logistical supply chain," International Journal of Productivity and Performance Management, 56(8), pp.689-714.

[25] Rahmat, Abdul Khabir., Faisol, Nasruddin., 2014, "The Quality of Outsourced Logistics Service: A Collectivist Culture Perspective," MPRA Paper No. 57364.

[26] Reich, B, H., Benbasat, I., 2000, "Factors that influence the social dimension of alignment between business and information technology objectives, MIS Quarterly, 24(1), pp.81-111.

[27] Sekaran, U., 2010, "Research Methods for Business: A Skill-Building Approach," 4th Ed, John Wiley & Sons, UK.

[28] SMEcorp., 2015, "Improve Productivity and Competitiveness, Seize Opportunities in ASEAN Market," Available at: http://www.smecorp.gov.my/index.php/en/latest-news/193-improveproductivity-and-competitiveness-seize-opportunities-in-asean-market/

[29] SME Annual Report., 2017, Available at: http://www.smecorp.gov.my/images/SMEAR/latest/2/Appendix%201.pdf

[30] SME Corporation Malaysia., 2018, Available at: http://www.smecorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-definition

[31] Snow, C., Fjeldstad, O., 2015, "Network Paradigm: Applications in Organizational Science," International Encyclopedia of the Social & Behavioral Sciences.

[32] van Riel, Allard., Gummerus, J., Liljander, V., Pura, M., 2004, "Customer loyalty to content-based Web sites: The case of an online health-care service," Journal of Services Marketing.

[33] Wang, Y., Pettit, S., 2016, "E-Logistics: Managing Your Digital Supply Chains for Competitive Advantage," Philadelphia: Kogan page publishers.