

# Network Externality as a Mediator on Business Growth: An Empirical Study of Multilevel Marketing Industry in Indonesia

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**Abstract** - The Multilevel Marketing (MLM) business became a more dynamic and competitive environment that drove companies to be sustainable in their business. However, the practices were sometimes perceived to be challenging by some of them. The research aimed to determine the role of network externality on Business Growth in the network marketing industry, often called MLM industry. With a non-probability sampling approach, the data were collected using structured questionnaires that were sent through emails or hardcopy. The collected data were analyzed using the PLS-SEM method with SmartPLS software. The results reveal that network externalities fully mediate both digital adoption capabilities and strategic agility to sustainable business growth. Meanwhile, network externality partially mediates the perceived product advantage to sustainable business growth. The result shall be taken into action by the companies as a key strategy in performing their business.

**Keywords:** network externalities, business growth, multilevel marketing industry

## I. INTRODUCTION

Due to the dynamic and competitive nature of today's MLM business environment, most business growth is formed from adding new members. This poses an innovative challenge as a strategy to achieve their business growth goals (Nuryakin, 2020).

Improve business growth performance (Zhou et al., 2021), which is seen as an effort to create value. MLM companies are faced with endless challenges in adopting new ways of thinking in empowering their members. Pratono (2018) has provided a new way of thinking related to systems of training, development, motivation, and retaining partners to develop sustainable and profitable enterprise growth solutions. If business growth adopts strategies to train, develop, motivate, and retain independent partners and is implemented effectively, then the MLM company is able to maintain the survival of the organization and its members. However, in reality, there are still many MLM companies that go bankrupt.

The latest data from (WFDSA Annual Report, 2020), shows that sales volume has decreased, raising doubts whether this theory can be confirmed in Indonesia or not. Data from the Sub-Directorate of Franchising and Direct Selling of the Ministry of Trade of the Republic of Indonesia shows that this problem is getting worse because many MLM companies are unable to provide sales training effectively due to a lack of funds to hire a team of professional trainers. For example, other researchers (Bos-Nehles & Veenendaal, 2019; Somu et al., 2020) show that in the Training and Development dimension, many MLM companies have difficulty obtaining training and develop capabilities to enhance the required skills. Another problem also arises in the loss of MLM companies which often have an impact on the problem of the Compensation and Reward System. From the internal side of the company, there are also problems related to the dimension of

Supportive Supervision (Bos-Nehles & Veenendaal, 2019), mainly due to managers and directorates who rarely organize programs that focus on increasing member motivation, routine communication skills, and sales targets, to capability development.

In particular, previous studies have shown that strategic sensitivity, resource fluidity, and leadership unity are three strong dimensions that support strategic agility (Clauss et al., 2019; Debellis et al., 2020; Doz, 2020). The influence of strategic agility on company performance has been tested in various industries, it was found that previous research shows inconsistent results from existing research that strategic agility did not affect company performance (Khan & Wisner, 2019; Reed, 2020).

Various studies say that network externalities affect company performance in the IT and Communication industry (Cen & Li, 2019; Yao et al., 2020), because according to the nature of the MLM business model, the researcher will test the potential influence of network externalities on the business growth of MLM companies which has rarely been tested empirically in the previous MLM industry.

Previous research reveals that for legitimate MLM companies, commissions are only obtained from selling the company's products or services, not from registration or recruiting new members (Malshe & Krush, 2020). Elements of products and relationships affect the effectiveness of direct sales (Poon & Albaum, 2019). Various benefits, advantages and perceived product value are perceived product advantages by users which are important factors in business deployment and development (Goto et al., 2019; Kaczorowska et al.) various companies.

This shows that in recent years, MLM issues related to partner development orientation in the MLM business model have attracted a lot of attention from academics and practitioners in the context of how to sustain business growth. At the same time, over time, the concept of partner development orientation is perceived in different dimensions between managers and researchers. However, other researchers point out that the weakness of MLM companies tends to focus on low digital adoption capability which is characterized by the company's lack of ability and capacity to use digital technology for business and service provision. In fact, other researchers argue that the perceived product advantage among MLM members who are also product consumers is also questionable in terms of company and product quality. Several researchers highlight the importance of the company's level of trust in the superiority, quality, benefits, and value of products marketed to customers (Goto et al., 2019; Healy et al., 2018). Even other researchers consider that companies that are aware of the benefits of products for consumers show that the company's understanding of quality is higher than competing products so that companies can be closer to consumers to provide services and solutions that are beneficial to customers.

At the same time, several studies have analyzed

the beneficial impact of maximizing flexibility in the face of new developments, continuously innovating and adjusting the company's strategic direction with rapid changes so as to improve the company's overall performance (Lungu, 2020). This issue has been redefined as strategic agility in the MLM sphere. However, with the development of sustainability issues, it has gained a very important momentum for the MLM industry to rapidly increase. With many authors identifying the importance of business partners and members as the main drivers of sustainable business growth, new ideas about the influence of network externalities are emerging that attract more attention in academic and industrial organizations, but still tend to be theoretical rather than empirical. This is evident in previous studies on sustainability discourse, which investigated the meaningful relationship between network externalities and business sustainability. Network externalities have been recognized for some time as an important determinant of business and social change in response to the increasing complexity of the MLM business environment in which businesses operate.

Similarly, MLM researchers focus on developing products related to the interests of network externalities that are lower priced but functionally appropriate to meet the needs of MLM members with limited purchasing power in resource-constrained developing countries. Despite significant strong attention to the drivers of network externalities towards sustainability, little or no empirical knowledge about the mediating role of network externalities in business models and business growth performance as an important measure is discussed in the study. The research aims to determine the role network externality on sustainable business growth and the effect of digital adoption capability, strategic agility, and perceived product advantage on sustainability business growth mediated by network externality.

Low managerial quality, lack of ICT skills and policies that limit market access, competition in services, hiring and firing, and availability of venture capital are associated with lower adoption of digital technologies (Nicoletti et al., 2020). In the field of politics that has explored the practice of digital adoption in the Labor Party to examine elite perceptions and applications of interactive digital tools, this study has shown evidence of interest among elites in interactivity (Dommett, 2020). Qualitative research that provides some advice to policy makers and technology suppliers on how to encourage digitalization adoption among SMEs, and also argues that digital adoption by SMEs stems from critical orientations, namely sales, marketing, process improvement, and product development so as to understand the need for digital adoption (Lee, Falahat, & Sia, 2020). Digitization refers to the adoption and application of digital technology by a company, summarizing the impact of digitization into three main areas, namely: 1) optimize existing activities, 2) facilitate input for new activities, and 3) create and maintain networks between various business partners.

Among the various digital technology options, SMEs must understand how they can leverage the technology to benefit (Lee et al., 2020).

Hypothesis 1: Digital Adoption Capability has a positive effect on the Company's Sustainable Business Growth.

How a digital platform affects network externalities (Halaburda et al., 2020), meaningful managerial implications for online B2B service providers to build a loyal user base through increasing user perceptions of network externalities, switching costs, and value. A number of studies have confirmed evidence of the effect of direct network externalities in the digital environment, digital transformation and the influence of network externalities contribute to an increase in the number of subscribers, a reduction in the number of networks (distortion of market competition), and a decrease in telecommunications prices (Radukić et al., 2020). Previous research on network externalities is generally in the telecommunications sector (Hung et al., 2020; Mouakket & Sun, 2019; Na et al., 2019), social networking sites (Hung et al., 2020; Mouakket & Sun, 2019), relating to digital technology (Lyu, Guo, & Chen, 2023; Pang, Ruan, & Wang, 2023).

Hypothesis 2: Digital Adoption Capability has a positive effect on the Company's Sustainable Business Growth through network externality

Previous MLM research shows that product innovation does not increase sustainable competitive advantage due to the absence of product exclusivity and special uniqueness because products are easy to obtain from OEM and imported factories, Malaysian MLM Distributors consider that product innovation causes products to be expensive, complicated, difficult to sell, shared, and taught to their downlines (Keong & Dastane, 2019).

Yi et al. (2021), on MLM, found that perceived product value tends to affect consumer satisfaction. Innovation capability can result in product excellence, brand value or sales growth, but product excellence does not have a significant effect on the company's business performance (Shih, 2018). In contrast to the results by Arnett, Sandvik, & Sandvik (2018), showing that product excellence also makes organizations more effective, these results support previous research conducted on SMEs in Central Java, Indonesia.

Hypothesis 3: Perceived Product Advantage has a positive effect on the Company's Sustainable Business Growth

The product will be more useful and of more value if more people use it and recommend it to others. People's desire to refer products and services to others if there are perceived benefits (Cen & Li, 2019; Lee & Joshi, 2020). In various studies investigating product advantages, they often focus

on elements, such as quality, uniqueness, innovation, and performance (Arnett et al., 2018). Product excellence is significantly and positively related to market performance (McCartan, 2023). The research examines the perceived superiority of the product in MLM that supports the company's long-term business growth. Perceived product advantage has also been shown to be an important factor in explaining the adoption and success of product offerings (Arnett et al., 2018). It is suspected that the perception of product superiority greatly affects the effects of network externalities which ultimately increase the growth of the MLM business.

Hypothesis 4: Perceived Product Advantage has a positive effect on the Company's Sustainable Business Growth through network externality

Research conducted by (Nurjaman et al., 2021) in the logistics service industry in Indonesia using quantitative methods and purposive sampling methods to collect data, the results of research analysis found that the implementation of strategic agility can directly improve company performance. Previous research was also conducted in Turkey in the tourism industry focusing on transportation companies with quantitative methods, the results showed that strategic agility encourages and improves company performance (Kale et al., 2019). There is also empirical research conducted on the higher education sector in Malaysia which shows that strategic agility is seen as an important requirement for organizations to achieve superior organizational performance (Chan & Muthuveloo, 2019).

Hypothesis 5: Strategic Agility has a positive effect on the Company's Sustainable Business Growth

Several previous studies have shown that there are inconsistencies in research results regarding the relationship between strategic agility and business performance. There are studies that show the results of strategic agility have a positive and significant effect on business performance (Chan & Muthuveloo, 2019; Kale et al., 2019; Kurniawan et al., 2020; Nurjaman et al., 2021) On the other hand, there are studies that show there is no positive effect between strategic agility and business performance (Khan & Wisner, 2019; Reed, 2020). Previous research has tested externalities. networking in IT industry (Lee & Joshi, 2020; Mouakket & Sun, 2019), customer loyalty (Hung et al., 2020), digital platforms (Cen & Li, 2019; Halaburda et al., 2020; Radukić et al., 2020), and the desire to provide recommendations for product use (Bai et al., 2019).

Hypothesis 6: Network externality are proven to mediate the relationship of Strategic Agility to the Company's Sustainable Business Growth

Bai et al. (2019) empirically compares the effects of network externalities on customer recommendations

between luxury and necessity products. To verify the hypothesis, data are collected from 539 consumers. Empirical results show that for luxury and necessity products, direct network externalities have a positive impact on customer recommendations, while network externalities have an indirect negative impact on customer recommendations. Research on network externalities of 251 users of social networking sites in China, shows that network size does not affect the perceived usefulness of social networking sites, which indicates that users of social networking sites in China do not need to consider the reference network size to increase the benefits they receive perceived usefulness of the site (Mouakket & Sun, 2019). Na et al. (2019) also show that the correlation between network externalities and information dissemination behavior from platforms shows that perceptions of complementarity and social interaction have a significant effect on information diffusion behavior. Cen and Li (2019), on online B2B platforms, found that direct and indirect externality dimensions significantly affect buyer loyalty through perceived value, 83 user satisfaction and switching costs.

Hypothesis 7: Network externality have a positive effect on the Company's Sustainable Business Growth.

## II. METHODS

The research applies a quantitative research method with a descriptive-explanatory or descriptive-explanatory approach. Descriptive research aims to obtain an accurate profile of events, phenomena, people, conditions or situations in accordance with the research objectives. The research sample are MLM companies that are official and have licenses to operate in Indonesia, both foreign companies and domestic companies represented by top management of the company such as CEO, General Manager, or Senior Manager who is authorized in making strategic decisions of the Company. The research uses a non-

probability sampling method because the population size and distribution are unknown. Each company is represented by one top management to fill out the questionnaire that is sent by hardcopy or through email, it is called a purposive sampling approach, since the researcher has a list of respondent data in the population and can take samples of people (or other elements) directly (Ames et al., 2019).

The source of data or population in the research is the top management team of MLM companies or Top Management Team (TMT) from registered MLM companies from the Ministry of Trade of the Republic of Indonesia and who joined the Indonesian Direct Selling Association (APLI) and the Indonesian Direct Selling Company Association (AP2LI). The unit of analysis in the research is company. The questionnaire for each operationalization of the research variable was designed with five alternative answer choices using a Likert scale including: 5 for strongly agree (SS), 4 for agree (S), 3 for Neutral (N), 2 for disagree (TS), and a score of 1 for strongly disagree (STS). The structured questionnaire was distributed through an online platform (emails and messenger apps).

To test the hypothesis, Structural Equation Modeling (SEM) is used, which is an analysis of the research model to determine the relationship between variables in research by providing a quantitative test of the theoretical model hypothesized by a researcher.

## III. RESULTS AND DISCUSSIONS

The outer loading results shown in Table 1 show that among the 5 variables, 31 indicator factor loading values are above 0.7. Therefore, 25 variables are classified as sufficient for further analysis.

Table 2 illustrates that the Composite-Reliability for all factors is above 0.7, so it can be concluded that the variables and construct statements are reliable. The table also shows all Average Variance Extracted (AVE) values above 0.50 which indicates that these factors have acceptable convergent validity.

Table 1 Convergent Validity Analysis

Variable	Indicator	Average Value	Standard Deviation	Loading Factor	Remarks
Digital Adoption Capability	DAC1	4.445	0.669	0.825	Valid
	DAC2	3.951	1.246	0.700	Valid
	DAC3	4.330	0.643	0.875	Valid
	DAC4	4.242	0.682	0.920	Valid
	DAC5	4.115	1.034	0.873	Valid
	DAC6	4.159	1.028	0.871	Valid
Strategic Agility	SST1	4.379	0.542	0.786	Valid
	SST2	4.396	0.524	0.700	Valid
	SST3	4.247	0.509	0.740	Valid
	LUN1	4.478	0.590	0.843	Valid
	LUN2	4.462	0.649	0.811	Valid

Table 1 Convergent Validity Analysis (Continued)

Variable	Indicator	Average Value	Standard Deviation	Loading Factor	Remarks
Perceived Product Advantage	LUN3	4.478	0.553	0.854	Valid
	RFL1	4.308	0.561	0.793	Valid
	RFL2	4.368	0.531	0.843	Valid
	RFL3	4.379	0.532	0.776	Valid
	PPA1	4.407	1.134	0.893	Valid
	PPA2	4.313	1.009	0.905	Valid
	PPA3	4.434	1.013	0.943	Valid
	PPA4	4.275	1.059	0.929	Valid
	PPA5	4.033	1.157	0.791	Valid
	Network Externality	NET1	4.379	1.013	0.906
NET2		4.269	1.021	0.907	Valid
NET3		4.236	1.040	0.880	Valid
NET4		4.401	0.671	0.891	Valid
NET5		3.951	1.150	0.831	Valid
NET6		3.984	1.040	0.825	Valid
Sustainable Business Growth	SBG1	3.830	1.244	0.951	Valid
	SBG2	3.797	1.266	0.957	Valid
	SBG3	3.632	1.310	0.933	Valid
	SBG4	3.462	1.308	0.842	Valid
	SBG5	3.841	1.276	0.935	Valid

Discriminant validity was evaluated using the Fornell-Larcker criteria (Hilkenmeier et al., 2020) presented in Table 3. Discriminant validity is measured by the square root value of each AVE shown in the diagonal cell and is required to be greater than the correlation coefficient (a value other than that in the diagonal cell). Table 3 shows that this requirement was also met and thus the discriminant validity proved adequate for the factors.

Table 2 Composite Reliability and Average Variance Extracted

Variables	Composite Reliability	AVE
Digital Adoption Capability	0.938	0.717
Strategic Agility	0.951	0.764
Perceived Product Advantage	0.952	0.799
Network Externality	0.939	0.633
Sustainable Business Growth	0.967	0.855

The structural model is analyzed using the R-squared value. This helps in identifying the magnitude of the exogenous variables and at the same time explaining the endogenous variables. The calculated R-squared values are shown in Table 4.

The R-squared value of 0.617 for the resulting network externality explains that the 61.7% variance is contributed by the constituent variables of Digital Adoption Capability, Strategic Agility and Perceived

Product Advantage. The remaining 38,3% of the variance is explained by other variables not examined in the research.

Similarly, the R-squared value of 0.358 for Sustainable Business Growth reveals that the resulting factor variance can be explained by other variables, namely, Digital Adoption Capability, Strategic Agility and Perceived Product Advantage, and network externality up to 35,8%, while the remaining 64,2% contributed by another unknown variable.

Table 3 Discriminant Validity (Fornell-Larcker Criteria)

Variables	DAC	NEX	PPA	SA	SBG
<b>DAC</b>	0.847				
<b>NEX</b>	0.440	0.874			
<b>PPA</b>	0.207	0.689	0.894		
<b>SA</b>	0.418	0.531	0.327	0.795	
<b>SBG</b>	0.278	0.546	0.511	0.178	0.925

Table 4 R-Squared

Variables	R-Square
Network Externality	0.617
Sustainable Business Growth	0.358

The hypotheses formulated in Table 5 are now analyzed using the t-test and the results are presented

in Table 5. Examining seven hypotheses, five hypotheses are statistically significant and proven to be able to increase the company's business growth in a sustainable manner. While the other two hypotheses are rejected, which means that they are not statistically proven to increase the company's sustainable business growth.

The results of the research indicate that the hypothesis which states that Digital Adoption Capability does not have a direct effect on Sustainable Business Growth. It was found that the t-statistical value  $1.617 < 1.96$ . This is in contrast to the research of (Fürstenau et al., 2020) who conducted research on European airlines found that digital capabilities can improve organizational performance by supporting complex decision-making processes. The results of previous studies show that digital orientation and digital capability have a positive effect on digital innovation and digital innovation mediates the effect of technology orientation and digital capability on financial and non-financial performance (Khin & Ho, 2018). Digitization refers to the adoption and application of digital technology by a company (Lee et al., 2020). The ability to adopt digital does not necessarily increase sustainable business growth.

The *t*-value has a value of  $1.972 > 1.96$ . Therefore, the hypothesis which states that Network Externalities are proven to be able to mediate the relationship between Digital Adoption Capability and Sustainable Business Growth is accepted. This is supported by the results of (Halaburda et al., 2020) research which states that a digital platform affects network externalities, especially on meaningful managerial implications for online B2B service providers to build a loyal user base through increasing user perceptions of network externalities, switching costs, and score. User (or customer) loyalty is an important source of competitive advantage for companies marketing their products or services through conventional channels and/or online, and various online service providers are emerging (Cen & Li, 2019), particularly in the area of direct selling MLM.

It was also found that the T-statistical value  $2.229 > 1.96$ . From these results, the hypothesis which states that Perceived Product Advantage has an effect on Sustainable Business Growth is accepted. This is

in contrast with the research by (Keong & Dastane, 2019) which states that Malaysian MLM distributors perceive that product innovation causes products to be expensive, complicated, difficult to sell, share, and teach to their downlines. However, this result is consistent to Shih (2018) which states that successful radical innovation enables mutually beneficial relationships between stakeholders to create product advantages. The ability of innovation can result in product advantage, brand value or sales growth, but product advantage has a significant effect on the company's business performance.

The hypothesis which states that network externality are proven to be able to mediate the relationship between perceived product advantage and sustainable business growth is accepted, since the t-statistical value  $2.750 > 1.96$ . This shows that the product is a fairly important part for MLM companies in an effort to develop their business and increase their competitive advantage (Hardon et al., 2019; Tay & Meng, 2018). The researcher develops and tests the importance of perceived product advantage in the MLM industry in an effort to increase sustainable business growth. People's desire to refer products and services to others if there are perceived benefits (Cen & Li, 2019; Lee & Joshi, 2020). In various studies investigating product advantages, they often focus on elements, such as quality, uniqueness, innovation, and performance (Arnett et al., 2018).

The hypothesis which states that Strategic Agility affects Sustainable Business Growth is rejected since it was found that the T-statistical value  $1.810 < 1.96$ . This result consistent to (Reed, 2020) and different from the research of (Kurniawan et al., 2020) which confirms the existence of a causal relationship through structural equation modeling, the research results show that strategic agility has a positive and significant direct effect on company performance. There is also empirical research conducted on the higher education sector in Malaysia which shows that strategic agility is seen as an important requirement for organizations to achieve superior organizational performance (Chan & Muthuveloo, 2018). Empirical research also conducted on the IT sector in Romania resulted in the same thing that strategic agility is positively related to company performance (Lungu,

Table 5 Hypothesis Examine Result

Hypothesis and Path	T-Statistic	P-Value	Result	Decision
<b>Direct Effect</b>				
H <sub>1</sub> : DAC → SBG	1.617	0.106	Rejected	Not Proven
H <sub>3</sub> : PPA → SBG	2.229	0.026	Accepted	Proven
H <sub>5</sub> : SA → SBG	1.810	0.070	Rejected	Not Proven
H <sub>4</sub> : NEX → SBG	3.389	0.001	Accepted	Proven
<b>Indirect Effect or Mediating Role of Network Externality</b>				
H <sub>2</sub> : DAC → NEX → SBG	1.972	0.050	Accepted	Proven
H <sub>4</sub> : PPA → NEX → SBG	2.750	0.006	Accepted	Proven
H <sub>6</sub> : SA → NEX → SBG	2.861	0.004	Accepted	Proven

2020). The results exhibit that strategic agility does not directly affect business growth because not all existing resources have a direct impact on business growth. Strategic agility seems to have become commonplace in the network marketing industry.

It was found that the T-statistical value  $2.861 > 1.96$ . Results indicate that the hypothesis stating that network externality are proven to be able to mediate the relationship between Strategic Agility and Sustainable Business Growth is accepted. These results are supported by research in Florida, United States of America in three industrial sectors of varying size, namely manufacturing, construction and professional services which show no direct relationship between strategic agility and company performance (Reed, 2020), and the research results suggest that network externality can be a mediating factor between strategic agility and sustainable business growth. This finding can enrich management theory, especially about strategic agility which is now continuing to be popular. The research confirms the results of research from (Reed, 2020) that strategic agility is related to business performance depending on the size of the company, the age of the company, and also the business model of the company itself. So there are still many opportunities in strategic agility development and research that can enrich managerial knowledge. The results of the research are expected to be novel and can contribute not only to the network marketing industry but also to various other industries.

Next, the hypothesis which states that network externality have a positive effect on Sustainable Business Growth is accepted. The t-value  $3.389 > 1.96$ . Na et al. (2019) also show that the correlation between network externalities and information dissemination behavior from platforms shows that perceptions of complementarity and social interaction have a significant effect on information diffusion behavior. Previous research on online B2B platforms found that direct and indirect externality dimensions significantly affect buyer loyalty through perceived value, 83 user satisfaction and switching costs (Cen & Li, 2019). Network externality are an important factor in the development of an existing network marketing business venture. Bai et al. (2019) point out that network externalities have an important influence so that consumers are willing to recommend luxury products and daily necessities. In accordance with the research results, the development of network externalities in the network marketing industry is needed in addition to the software and application industries.

#### IV. CONCLUSIONS

The results conclude that: 1) Digital adoption capability has a positive effect on sustainable business growth; 2) Network externality are proven to be able to mediate the relationship between digital adoption capability and sustainable business growth; 3) Product

advantage has significant effect on sustainable business growth; 4) Network externalities are proven to mediate the relationship between product advantages on sustainable business growth.

The results can be an alternative input for designing management strategies and policies in order to develop MLM business in Indonesia which of course indirectly has a positive impact on the nation's economic growth. MLM companies and their management teams also get additional references in an effort to develop a solid framework so that they can increase sustainable MLM business growth in Indonesia.

The research is found to have several implications. First, it is imperative that MLM companies adopt digital technology to sustain its growth. Despite traditional ways of making connections with members through personal engagement, it must be completed with digital adoption to make the network grow effectively. Secondly, the research confirms the imperatives for MLM to have solid value propositions in the form of product advantage. Depending on network alone without reliable quality products may hinder the growth of MLM businesses.

Future research shall include the digital literacy of MLM member companies as it may vary widely across companies and could affect the whole equation of creating sustainable business growth.

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