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The Effect of Managerial Capabilities, Strategic Alliance and Strategic Innovation on Product Lifecycle Management: A Case Study in Indonesia

Daman SUDARMAN[1], Dwi KARTINI[2], R Arief HELMI[3], Rita Komala DEWI[4]

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Abstract

RTD tea, which is the most popular soft drink choice after bottled water, has experienced trade challenges during the COVID-19 pandemic. The purpose of this study was to examine the effect of managerial capabilities, strategic alliance and strategic innovation on product lifecycle management and corporate performance is moderated by the social media in RTD tea companies. The research method used in this research is a quantitative approach with data processing using SemPls. The results showed that the Managerial Capabilities variable did not have a significant effect on Marketing Performance, the Managerial Capabilities variable did not have a significant effect on Product Lifecycle Management, the Product Lifecycle Management variable had a significant effect on Marketing Performance, the Social Media variable was proven to mediate PLM Marketing Performance, the Strategic Alliance variable did not have a significant effect on Marketing Performance. The Strategic Alliance variable had no significant effect on Product Lifecycle Management, the Strategic Innovation variable had a significant effect on Marketing Performance, and the Strategic Innovation variable had a significant effect on Product Lifecycle Management.

Keywords: Managerial Capabilities, Strategic Alliance, Strategic Innovation, Product Lifecycle Management, Corporate Performance

JEL Classification Code: A10, O31, O35, L1

1. Introduction

In the first quarter of 2018 the food industry grew by 13.01% (yoy). Although lower than the growth of 14.52% (yoy) in the fourth quarter of 2017, it is much higher than the growth in the first quarter of 2017 which reached 8.25% (yoy). Meanwhile, the beverage industry, which in the first quarter of 2018 recorded a growth of 5.06% (yoy), is in much better condition, because throughout 2017 this industry continued to experience a decline in production.

The soft drink industry has a very bright future in Indonesia, because it is supported by the potential of a country with abundant raw material resources. In addition, there are changes in people's lifestyles that has led to a preference for instant drinks. Based on the Indonesian Standard Business Field Classification (KBLI), the soft drink industry group includes bottled drinking water (AMDK), carbonated drinks, ready-to-eat tea, fruit juice drinks, coffee and ready-to-eat milk, and isotonic or supplement drinks.

RTD tea, which is the most popular soft drink choice after bottled water, has experienced trade and trade challenges during the COVID-19 pandemic. The closure of food service outlets, including independent outlets such as meatball stalls and Padang stalls, as a result of social distancing has a significant negative impact on the sales volume of this category, as these are the drinks commonly consumed in food and beverage services which during the review period had recorded growth before the pandemic.

The company must also consider the temporal or time aspects that are changing, so that it will also affect the company's resources. The company must make efforts to maintain a competitive advantage. Some of these efforts include: (1) developing and increasing resources; (2) developing skills; (3) develop and transform resources into capabilities from time to time; (4) considering the temporal nature of the resource

[1]First Author and Corresponding Author. Universitas Padjadjaran, Indonesia [Postal Address: Jl. Dipati Ukur No 46 Gedung A Bandung Jawa Barat 40132, Indonesia]
Email: damansudarmanpadjadjaran@gmail.com
[2]Universitas Padjadjaran, Indonesia.
[3]Universitas Padjadjaran, Indonesia.
[4]Universitas Padjadjaran, Indonesia.

and its effects, either in the form of different life cycle effects, or the heterogeneity of firm resources over time.

Based on the product life cycle, companies are required to know every aspect that affects them and manage the product life cycle. If the company's products have reached the stage of decline, it will have an impact on decreasing sales revenue, which in turn will have an impact on decreasing sales performance. Therefore, proper product life cycle management is needed so that the company does not experience losses and performance degradation. Product life cycle management is a business activity with an integrated approach to business processes and information that facilitates the management of a product throughout its life cycle, from conception until it is no longer remembered by consumers in an effective way.

In its implementation, product cycle management is influenced by business processes and practices, people, and technology. In other words, it can be said that product cycle management is also influenced by the resources owned by the company. Resources owned by a company consists of three types, namely tangible, intangible and human resources. This study seeks to examine intangible resources, namely capabilities and innovation. The capabilities observed in this study are dynamic capabilities, in the form of managerial capabilities. Managerial capabilities can be defined as those capabilities that a company has in managing its resources, both tangible and human resources, and even other intangible resources owned by the company, so that the company gains the ability to face environmental changes and be competitive. Thus, the company will be able to achieve superior performance, both financial and non-financial performance.

In connection with innovation, the innovation observed in this study is strategic innovation, which is innovation that is able to support corporate efforts and strategies in achieving company goals. Strategic innovation that transforms existing businesses into new businesses and has a major impact on company performance (Moldabekova et al., 2021). The strategic innovation model framework developed by Schlegelmilch et al. (2003) shows that strategic innovation will be able to increase customer value and be able to position the company in a competitive environment (Dogan, 2017). Innovative business processes and activities that support the direction of company goals have an impact on company performance in marketing (Kalay & Lynn, 2015; Laban & Deya, 2019; Schroeder, 2013; Lilly & Juma, 2014).

Business activities cannot be separated from linkages with external parties. Linkages with other parties can be made through cooperation agreements or strategic alliances, namely alliances that are in line with the company's strategy, so that they can support the achievement of company goals (Nurmukhanova et al., 2021, Nielsen, 2007). Strategic alliances lead to agreements among companies to pursue common goals through coordination of activities and sharing of resources. This cooperation agreement can create new opportunities, entrepreneurial and innovative capabilities, and social capital (Kalay & Lynn, 2015, Lee, 2007). A research study conducted by Kalay and Lynn, (2015) also shows that strategic alliances can improve a company's marketing performance.

Another business activity that is also crucial for the company's marketing performance is marketing activities. In this study, the marketing activity observed was marketing communication, in the form of social media. Social media is a medium that provides a social network identity for its users in creating a profile for social activities and also allows its users to create and exchange opinions by content users without the constraints of time and space (Carr & Hayes, 2015; Kaplan & Haenlein, 2010; Erdil & Ozdemir, 2016). Nowadays, social media is an important external and internal company communication media and can even help improve the company's marketing performance.

Based on the description above, this study will examine the influence of managerial capabilities, strategic alliance, strategic innovation on product lifecycle management and corporate performance moderated by social media. This research is motivated by the existence of several studies on the relationship between managerial capabilities, strategic alliance, strategic innovation with product lifecycle management and the performance of RTD beverage companies during the Covid-19 pandemic in Indonesia.

2. Literature Review and Hypothesis

2.1. The Influence of Managerial Capabilities on Company Marketing Performance

Managerial capabilities can be termed as those capabilities that a company has in managing its resources, both tangible and human resources, and even other intangible resources owned by the company, so that the company is able to face environmental changes and has a competitive edge in the company's product market. Thus, the company will be able to achieve superior marketing performance, both financially (which includes customer satisfaction and customer growth) and non-financial performances (which includes sales growth and profits from sales) (Pinna, et al, 2018; Napitupulu, et al., 2020). Based on the results of the research above, the following hypothesis can be made:

H1: *Managerial capabilities have a positive effect on the company's marketing performance.*

2.2. The influence of the Strategic Alliance on the Company's Marketing Performance

Business activities cannot be separated from linkages with external parties. Linkages with other parties can be

made through cooperation agreements or strategic alliances, namely alliances that are in line with the company's strategy, so that they can support the achievement of company goals. Strategic alliances lead to agreements among companies to pursue common goals through a coordinated effort and through sharing of resources. This cooperation agreement can create new opportunities, entrepreneurial and innovative capabilities, and social capital (Kalay & Lynn, 2015). A research study conducted by Kalay and Lynn, (2015) also showed that strategic alliances can improve a company's marketing performance. Based on the results of the research above, the following hypothesis can be made:

H2: *The strategic alliance has a positive effect on the company's marketing performance.*

2.3. The Influence of Strategic Innovation on Company Marketing Performance

Strategic innovation is an innovation that is able to support the company's efforts and strategies in achieving company goals. Strategic innovation that transforms existing businesses into new businesses and has a major impact on the company's marketing performance (Kodama, 2018). The strategic innovation model framework developed by Schlegelmilch et al. (2003) shows that strategic innovation has the ability to increase the value of a company's products and services and as a result the company is able to remain in competition (Dogan, 2017). Innovative business processes and activities that support the direction of company goals have an impact on the company's marketing performance (Kalay & Lynn, 2015; Laban & Deya, 2019; Lilly & Juma, 2014). Based on the results of the research above, the following hypothesis can be made:

H3: *Strategic Innovation has a positive effect on the company's marketing performance.*

2.4. Product Lifecycle Knowledge of Company Marketing Performance

Products which are produced by a company have a life cycle consisting of introduction, growth, maturity and decline. Each of these stages is indicated by the growth in the level of sales. Product lifecycle management is a business activity with an integrated approach to business processes and information that facilitates the management of a product throughout its life cycle, from conception until it is no longer remembered by consumers (de Oliveira et al., 2015) in an effective way. Several previous research studies have stated that product lifecycle management has a positive impact on the performance of new product development, process performance and product performance of failure harmonization caused by limited knowledge of the business model, products and services provided by the company, functionality, usability and cost of the company.. Based on the results of the research above, the following hypothesis can be made:

H4: *Product Lifecycle has a positive effect on the company's marketing performance.*

2.5. Effect of Managerial Capabilities on Product Lifecycle Management

Companies are required to know every aspect that affects the product life cycle and manage the product life cycle. If the company's products have reached the stage of decline, it will have an impact on decreasing sales revenue, which in turn will have an impact on decreasing sales performance. Therefore, proper product life cycle management is needed so that the company does not experience losses and performance degradation. Product life cycle management is influenced by business processes and practices, people, and technology. In other words, it can be said that product lifecycle management is also influenced by the resources owned by the company. Resources owned by a company consists of three types, namely tangible, intangible and human resources.

Managerial capability is a form of resource that represents the capacity of managers to run the organization, make and implement strategic and operational decisions by directly influencing and coordinating resources and inputs, consolidating skills and technology into business competencies, and enabling it to react quickly to opportunities on environmental change (Ng et al., 2019). Thus, managerial capabilities will also be able to consolidate and react quickly to the product life cycle. The empirical study conducted also shows that the determining factors for the successful implementation of product cycle management are business, human, and technology processes and practices (Gurman, et al, 2017). Based on the results of the research above, the following hypothesis can be made:

H5: *Managerial Capabilities have a positive effect on Product Lifecycle Management.*

2.6. The influence of the Strategic Alliance on Product Lifecycle Management

A strategic alliance is a cooperation agreement with other companies with the aim of strengthening marketing performance. Collaboration occurs because of the company's limitations in human and technological resources, so that strategic alliances can become strength of the companies and covers each other's weaknesses. This multi-stakeholder engagement covers a wide range of issues and requires a

significant amount of time and effort to get to know partners and find out how best to collaborate. Even in societies with weak legal systems, future partners should strive to see as many aspects of the alliance as possible in the future. In addition, it is very important to get incentives through better mechanisms, such as phased implementation, contingency agreements, and clauses that anticipate anything unexpected at any point of time. Most alliances have a limited life cycle with a beginning and an end (Hartmann, 2014).

Hartmann's (2014) statement shows that strategic alliances have a life cycle, because the agreements in the alliance have a certain period of time and consider long-term alliance aspects. This statement can be explained by the fact that there is a relationship between strategic alliances and product cycle management. The empirical studies conducted also show that the determining factors for the successful implementation of product cycle management are business processes and practices, people, and technology (Gurman et al., 2017). Based on the results of the above research, the following hypothesis can be made:

H6: *Strategic Alliance has a positive effect on Product Lifecycle Management.*

2.7. The Influence of Strategic Innovation on Product Lifecycle Management

Strategic innovation (strategic innovation) is the creation of value by using relevant knowledge and resources for the conversion of ideas into new products, processes or practices with the potential to have a major transformational effect on the evolution of markets and industries (Varadarajan, 2018), which results in breakthrough ideas. innovative ideas to drive business growth (Goodman & Dingli, 2017: 210), and play an important role in sustainable development for companies (Goodman & Dingli, 2013: 11; Kodama, 2018).

This statement shows that strategic innovation has an impact on the sustainability and competitiveness of companies. This statement can be explained that there is a relationship between strategic alliances with product life cycles and product cycle management. The empirical studies conducted also show that the determining factors for the successful implementation of product cycle management are business processes and practices, people, and technology (Gurman et al., 2017). Business, human and technological processes and practices are resources that must be managed and converted into new products, processes or practices with the potential to have a major transformational effect on the evolution of markets and industries (Varadarajan, 2018). Based on the results of the research above, the following hypothesis can be made:

H7: *Strategic Innovation has a positive effect on Product Lifecycle Management.*

2.8. The Role of Social Media in Moderating the Influence of Product Lifecycle Management on Company Marketing Performance

The presence of social media today greatly affects human activities, without exception to marketing activities. The use of social media in marketing is currently very effective and can reach various groups of people from young people to adults. With the existence of social media, another business activity that is also crucial for company performance is marketing activities. In this study, the marketing activity observed was marketing communication, in the form of social media.

Social media is a type of medium that provides a social network identity for its users in creating a profile for social activities and also allows its users to create and exchange opinions by content users without the constraint of time and space (Carr & Hayes, 2015; Kaplan & Haenlein, 2010; Erdil & Ozdemir, 2016). Today, social media is a medium for external and internal company communication which is quite important and can even help improve the company's marketing performance (Alarcón-del-Amo et al., 2017; Ahmad et al., 2018). The study of Wang & Kim (2017) proves that the use of social media moderates the effect of customer relationship management capabilities on the company's marketing performance. Based on the results of the research above, the following hypothesis can be made:

H8: *Social Media moderates the Influence of Product Lifecycle Management on Company's Marketing Performance.*

3. Research Methods

This research is designed to follow a quantitative approach, which means that it emphasizes aspects of social behavior that can be calculated and patterned, and not only finding and interpreting the meaning conveyed by people in their actions and the final results can be generalized. Research based on the positivism paradigm, namely research based on objectivity and science (science) to produce knowledge (Rahi, 2017). Thus, this study focuses on concise research, logical deductive exposure models, testing of causal relationships to prove theories, the use of survey instruments in collecting research data, and the generalizability of the conclusions drawn.

The research population is the whole part or component that is the focus of the research to study its characteristics. Ryder (1978) explained that a population is a series of cases or subjects (such as individuals, groups, institutions, countries, etc.) that exist if and only if the subject can be distinguished from other subjects that are not in the population (Neumayer & Plumper, 2017: 75). The population of this research is

companies that produce and market ready to drink teas in the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, Bekasi) which are members of the Soft Drink Industry Association.

The research sample was taken using a purposive technique. The sample type meets the criteria required in the study. The respondents in this study are employees who occupy positions in the structural field, so that they can find out the company's strategy and can answer questionnaires related to research variables. Based on the sample, the number of respondents are 160 who are operational managers or marketing managers; the respondents work in the readymade drink beverage companies in the areas of Jakarta, Bogor, Depok, Bekasi, and Tangerang.

The analysis technique used in this research is structural equation modeling (SEM). SEM is a set of statistical techniques that allow the simultaneous testing of a series of relatively "complex" relationships. Complex relationships can be built between one or more dependent variables with one or more independent variables. Each of the dependent and independent variables can be in the form of factors (or constructs, which are built from several indicator variables). Of course, these variables can be in the form of a single variable that is observed or that is measured directly in a research process. Thus, research modeling through SEM enables a researcher to answer research that is both regressive and dimensional (i.e. measuring the dimensions of a concept).

4. Results

Based on the data interview, it was found that the number of male respondents was 71 (44.3%), and female respondents were 89 people (55.6%). Based on the origin of the industry, there are 48 people of Teh Botol Sosro (30%), 39 people (24.4%) Frestea, 23 people (14.4%) Ultra Tea Box, Fruit Tea and ABC Tea Box, respectively. 15 people (9.4%), 9 people of Pucuk Harum (5.6%), 8 people (5%) of Glass Tea, and 3 people (1.8%) of Tekita. Respondents also asked their age and education. The age group 15–20 years numbered 38 people (23.75%), 20–25 years numbered 33 people (20.62%), 25–30 years numbered 34 people (21.25%), 30–35 years amounted to 27 people (16.87%), 35–40 years old were 14 people (8.75%) and >40 years were 14 people (8.75%).

4.1. Validity and Reliability Test

In this study, the validity test was conducted to separate invalid statement items from valid statement items to obtain test results with all values of $r > r$ table. We found that all question items were statistically valid. We also tested the level of reliability by looking at the Crombach Alpha value against our model with a Crombach Alpha value limit > 0.6. The results (Table 1) showed that all variables (including latent variables) > 0.6. This value means that all variables are very reliable.

Based on Table 1, information is obtained that the value of Composite Reliability on all indicator blocks has met the Composite Reliability assumption (>0.6), which means that all indicators on each latent variable have adequate consistency. Because the validity is sufficient, our model is declared to have reached a convergence condition and the output outer loadings of all indicators fulfills the assumption of convergence validity. This shows that all indicators in the latent variable experience divergence to explain the quality of the construct. The discriminant validity of indicators can be seen in the cross loading between the indicators and their latent variables.

4.2. Structural Model Evaluation

Based on the analysis results (see Figure 1) obtained from $R_{12} = 0.642$. This means that the latent variable of Marketing Performance can be explained well by the measurement system for Managerial Capabilities, Strategic Alliance and Strategic Innovation of 64.2% with $R_{22} = 0.445$. This means that the latent variable Product Lifecycle Management can

Table 1: Evaluation of the Measurement Model

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Marketing Performance	0.788	0.796	0.871	0.694
Managerial Capabilities	0.856	0.860	0.866	0.558
Product Lifecycle Management	0.937	0.941	0.947	0.620
Social Media	0.678	0.722	0.799	0.503
Strategic Alliance	0.850	0.840	0.877	0.517
Strategic Innovation	0.762	0.999	0.513	0.177

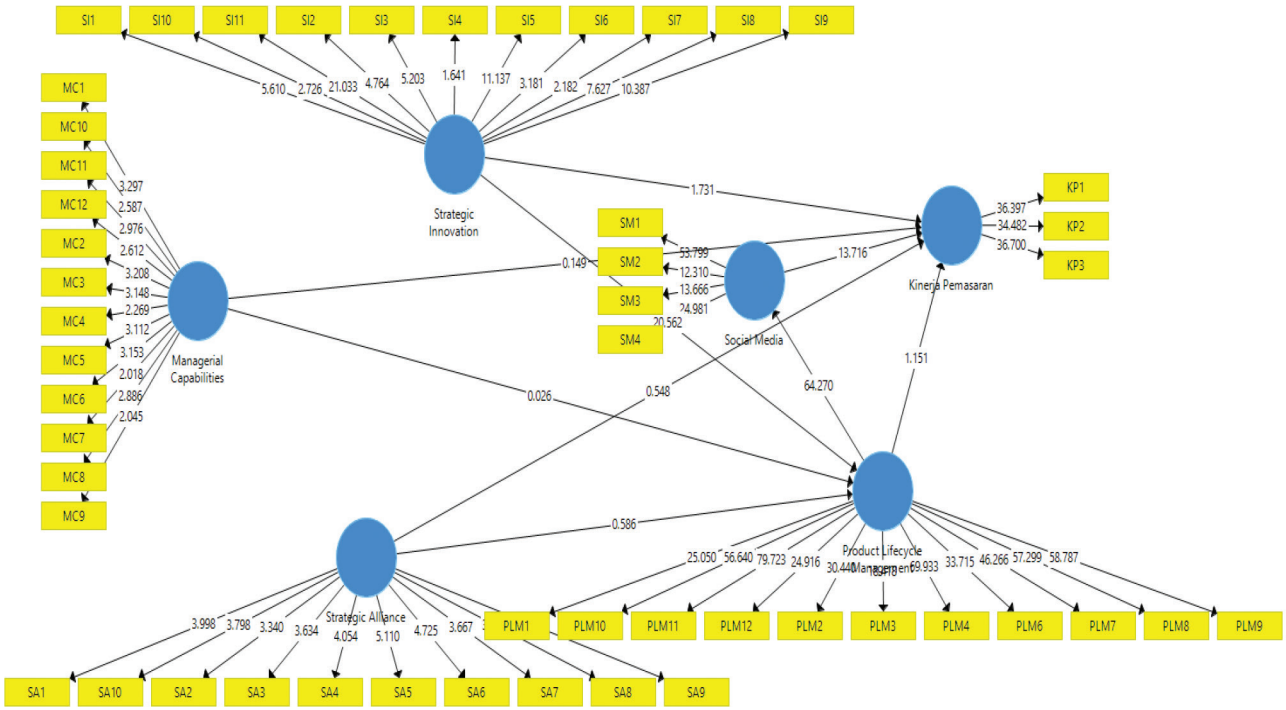

Figure 1: Measurement and Structural Model

be explained by Marketing Performance of 44.5% and $R_{32} = 0.707$. This means that the latent social media variables can be explained by the Marketing Performance and Product Lifecycle Management of 70.7%.

4.3. Hypothesis Test

Before testing the hypothesis, a bootstrap procedure is carried out. Bootstrap results with a bootstrap sample of 300 times it is assumed that the data is normally distributed so that testing of the parameters on the model can be done by using the *t* test. The coefficient value of the structural model is said to be significant if the *t*-count > *t*-table is 1.96 (1.96 is the *t*-table value at the 95% confidence level).

The results of hypothesis testing for the outer model conclude that all significant indicators are used to build the model while the results of the inner model hypothesis testing can be seen in Table 2 with the results of all significant path coefficients.

Based on the table above, it can be concluded that the Managerial Capabilities variable does not have a significant effect on Marketing Performance with *P* values of 0.882, the Managerial Capabilities variable does not have a significant effect on Product Lifecycle Management with *P* values of 0.979, the Product Lifecycle Management variable has a significant effect on Marketing Performance with *P* values of 0.050, variable Social Media is proven to mediate PLM Marketing Performance with P Values of 0.000, Strategic Alliance Variable has no significant effect on Marketing Performance with *P* values 0.584, Strategic Alliance Variable has no significant effect on Product Lifecycle Management with *P* values 0.558, Strategic Innovation Variable has a significant effect on Marketing Performance with *P* values 0.044, and Variable Strategic Innovation have a significant effect on Product Lifecycle Management with *P* values 0.000.

5. Conclusion

Based on the above discussion, it can be concluded that the Managerial Capabilities variable does not have a significant effect on Marketing Performance, the Managerial Capabilities variable does not have a significant effect on Product Lifecycle Management, the Product Lifecycle Management variable has a significant effect on Marketing Performance, the Social Media variable is proven to mediate the Marketing Performance of PLM, the Strategic Alliance Variable has no a significant effect on Marketing Performance, the Strategic Alliance variable has no significant effect on Product Lifecycle Management, the Strategic Innovation variable has a significant effect on Marketing Performance, and the Strategic Innovation variable has a significant effect on Product Lifecycle Management. Social media is an important tool which makes the companies capable to know and connect with their customers which helps

Table 2: *T* Test for Path Coefficients

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	*T* Statistics (|O/STDEV|)	*P* Values	Explanation
Managerial Capabilities → Marketing Performance	–0.008	–0.013	0.056	0.149	0.882	Not significant
Managerial Capabilities → Product Lifecycle Management	0.002	–0.015	0.085	0.026	0.979	Not significant
Product Lifecycle Management → Marketing Performance	0.087	0.093	0.076	2.151	0.050	Significant
Social Media → Marketing Performance PLM	0.838	0.837	0.061	13.716	0.000	Significant
Strategic Alliance → Marketing Performance	–0.025	–0.030	0.045	0.548	0.584	Not significant
Strategic Alliance → Product Lifecycle Management	–0.040	–0.049	0.068	0.586	0.558	Not significant
Strategic Innovation → Marketing Performance	0.064	0.068	0.037	2.731	0.044	Significant
Strategic Innovation → Product Lifecycle Management	0.601	0.600	0.029	20.562	0.000	Significant

in increasing the brand awareness and influence the customers. It also helps in receiving feedback from the customers and help make the products and services better. Companies use various social media platforms for social media marketing, such as Facebook, WhatsApp, Twitter, YouTube etc. The choice of platform depends on the target customer and marketing strategy. The study identified that young consumers appear to have positive attitudes towards social media that evoke similar feelings towards purchase intentions and brands advertised on the platform.

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