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Revolutionizing the runway: how technological and marketing innovation fuse market sensing on marketing performance in fashion industry

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ABSTRACT

This research attempts to explore the uses of market sensing and marketing performance through technological innovation and marketing innovation of local SMEs that offer their branded products in the fashion industry. While many previous studies discuss technological and marketing innovation in well-established fashion industries, this study attempts to relate market sensing and marketing performance from the less-established home fashion industry. Methodology, the sampling method uses purposive sampling with 142 respondents. The data processing used SmartPLS, evaluating the reflective measurement model and the structural model. Findings, the analysis of the structural equations shows that all variables of direct effect have a positive and significant effect. The final value, this paper will provide a direct contribution to increasing the amount of literature and to practitioners who have contributed knowledge related to market sensing variables on marketing performance, which are the variables of technological innovation and marketing innovation.

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Introduction

The fashion industry is an essential contributor to a country's economy. However, there are only so many innovations in products, which means significant changes in the function or use of the product. In addition, the Creative Economy Agency continues to strengthen the ecosystem and encourage growth in this sub-sector. According to data published by CNBC Indonesia (2019), the development of the fashion industry has the potential to contribute approximately 18.01%, or IDR 116 trillion, to the creative economy. Therefore, it is hoped that the creation of national fashion works can be better and have a special place in people's hearts, Indonesian works are more ready to compete in the world and are also expected to continue to provide innovation, be able to adapt and strengthen collaboration in the fashion ecosystem in Indonesia. Fashion Trend 2021/2022 has four themes: essentiality, spirituality, exploitation, and exploration, thus helping SMEs in the fashion sector rise quickly amid a pandemic. The local fashion industry has the potential to be a significant contributor to the country's economy. In addition, as of March 2021, non-oil and gas exports in the clothing and accessories sector, classified as knitted, have managed to grow 18.82% to a range of US\$ 360 million. Meanwhile, exports of clothing and accessories are classified as non-woven. Knitting managed to grow 12.81% in the range of US\$ 350 million, both of which are included in the top 20 non-oil and gas exports of Indonesia.

Innovation is needed as part of the company's mission to innovate, which is determined based on the company's goals (Kanagal, 2015). While the global economic slowdown will affect the national economy,

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Indonesia is believed to be able to maintain economic growth above 5%. Indonesia has had a 5% growth over the past 10 years. Sri Mulyani, the Minister of Finance of the Republic of Indonesia, indicated in 2019 that Indonesia could maintain growth above 5% outside of the global context. Indonesia could protect itself because the economy is quite large. Its market size can be insured to sustain global environmental uncertainty. The business is in economic development. There will be many challenges in the global environment that fluctuate and are competitive (Diaz-Fernandez et al., 2015).

According to Ahmed et al. (2017), the need for companies to carry out strategies in a globally competitive environment is to increase competitive progress while trying to understand the level of sensitivity towards companies. (Tutar et al., 2015). The market is the main problem in formulating strategies, and strategy influences performance (AlQershi, 2021; Habib et al., 2021). Based on the viewpoint of the analysis results related to resources, it turns out that resources are very important and necessary for the company (Sugiyarti & Ardyan, 2017). Some studies recommend that owners who want to develop their business on an international scale must create a competitive advantage to execute the company (De Silva et al., 2021). Inconsistent empirical evidence in the literature on positive effects between research variables, especially moderation variables, to explain the relationship that must be improved (Ozturk & Ozen, 2021; Schleu & Hüffmeier, 2021; Zhang et al., 2021).

The market-sensing dimension indicators on company performance to study market segmentation (Khristianto et al., 2021). For while this sense, according to Yu and To (2013), needed to share information on a timely basis, it becomes an essential requirement to shape (work attitude and employee behaviour) in the organization's achievements. In contrast, a growing body of research shows that market sensing is directly linked to a company's overall performance (Dias & Lages, 2021; Khan et al., 2022). But, measuring overall company performance can be concluded to be fatal, because the company has the potential resources to produce competitiveness (Guerola-Navarro et al., 2021).

This research contributes to the literature, among others, by developing a framework to explain how to encourage a set of innovations and systemic marketing capabilities that strengthen the competitiveness of companies, and as a mechanism to improve programs towards innovation, and this already provides some empirical evidence on MSMEs (Aljanabi, 2018; Kaleka & Morgan, 2017). Gupta et al. (2016) would like to address any deficiencies in the existing marketing literature by reviewing marketing innovations. The premise that innovation is critical to a company's competitiveness, growth and long-term viability has been widely accepted. Innovation is the introduction of something new for the business that can offer value to customers and contribute to organizational knowledge through both major and small, radical, and incremental, changes to products, processes, and services. Therefore, the need for innovation in marketing strategies is one way to introduce products to customers, and this is important because it will relate to the profits to be achieved by the company.

Thus, to achieve firm performance in the fashion industry, there is the frequent launch of new collections. Although there is a practical implementation of innovation in marketing strategies, it does not correlate with product innovation, this article studies the relationship between marketing innovation and firm performance, while the relationship between Marketing innovation and company performance using empirical data from the fashion industry, that enable knowledge of the effects each indicator that compose the marketing innovation on marketing performance (Bigas, 2018).

According to the opinion of Marion and Fixson (2021), technological advances focus on processes, product innovation, and how to create jobs. Technological innovation is one of the primary sources of creating and reducing jobs. In addition, Boavida (2017) argues that there are ranges in the innovation and technology valuation literature, so research is needed to analyse the influence and role of indicators that will be used as a reference for making decisions, and technological innovation is used as an indicator in decisions (Von Hippel & Kaulartz, 2020). The study aims to expand the amount of literature interaction, especially on the analysis model of market sensing and marketing performance (Ramaswamy & Ozcan, 2020), while the relationship between market sensing on technological innovation, marketing innovation, and marketing performance (Mu et al., 2018; Vargo et al., 2020). In addition, this research contributes to empirical studies on the importance of technology innovation and marketing innovation to improve the marketing performance of the fashion sector in Indonesia and other countries. According to the Creating Indonesia 4.0 initiative, the industrial sector must begin paying attention to the need for technological connectivity to boost the company's efficiency and effectiveness.

Literature review and hypothesis development

Market sensing and marketing performance

Bailey (2014) shows a strong connection between the theory of market orientation towards companies and market sense, whereas another scholar considers market sensing a vital component of recognizing opportunities. Desiana et al. (2022); Lin and Wang (2015) argued that the commercial ecosystem of sensing enterprises, including sensing development (Mu, 2015). By centralizing customer service and rivalry as well as market innovation in a company's corporate environment, market sensing helps to gather market intelligence through market sensing and strategic action (Ahmed et al., 2017; Bohlmann et al., 2013; Bradonjic et al., 2019). Furthermore, Bharadwaj and Dong (2014) and Ahmed et al. (2017), market sensing has often been operationalized by researchers as a multi-component construct, as seen in Table 1.

Marketing performance (MF)

Marketing performance is the alignment between the marketing team's stated goals and objects versus actual results. Marketing performance is also defined as a concept that measures how far the marketing achievements of a product produced (Adesoga & James, 2019; Hendar et al., 2018; Khalayleh & Al-Hawary, 2022; Khamaludin et al. 2022; Sugiyarti & Mardiyono, 2022). According to Ateke and Iruka (2015); Kartawinata and Wardhana (2015), measuring marketing performance will be an important factor because it can be used as an evaluation and benchmark for indicators of marketing performance. Varied firms have different objectives when it comes to multidimensional marketing performance. So, the measurement must be using different criteria (Muangkhrot & Ussahawanitchakit, 2015). According to Mone et al. (2013); Darmanto et al. (2014), indicators of marketing performance are sales growth, sales volume, and market share (Nuryakin, 2018; Sugiyarti and Ardyan (2017)

Yildiz and Karakaş (2012) marketing performance criteria two approaches are objective and subjective. The research approach to determining marketing performance criteria can be qualitatively or quantitatively (Nuryakin, 2018). Sukaatmadja et al. (2021), the criteria for the company achieved are determined by marketing performance and resources., Marketing performance includes e.g. sales growth, customer satisfaction, customer retention, and market share, so that it indirectly impacts on firm performance (Habib et al., 2020)

Sensing (S)

Sensing is based on survey results from consumers, competitors, and other related information channels (Dias & Lages, 2021). According to Khan et al. (2022), defined sensing is a company's capacity to detect better consumers and market developments than competitors. In addition, Bailey (2014) indicators of sensing include searching, scanning, and exploring dynamic markets, and are defined as customer information exchange, competitors, and relationships in the market aspect.

Sense-making (SM)

Sense-making is an organizational acquisition process, commendations, and action in the internal environment. A strategic plan is also needed to become an integrated force competent for an event (Lambert & Davidson, 2012; Strømme & Mork, 2021; Warren & Kersten-Parrish, 2022). Maitlis & Christianson

Table 1. Classifications of dimension sensing (S).

Authors	Approach	Dimension sensing (S)
Khan et al. (2022)	capability	sensing
Dias and Lages (2021)	capability	sense, sense-making, response
Bailey (2014)	information	sensing
Yu and To (2013)	information	sense
Sugiyarti and Ardyan (2017)	capability	sensing,

(2014), sense-making is a process that focuses and classifies information in the internal environment, and has different concepts, making it easy to get additional information. Besides that, sense-making is an individual attribute that is meaningful to the event (Ivanova & Torkkeli, 2013, Warren & Kersten-Parrish, 2022).

In other literature, sense-making consists of various elements, sense-making has three indicators: interpretation, relationship, and analysis. All stages of the sense-making process are correlated to organizational performance (Kjærgaard & Vendelø, 2015). The concept of sense-making, introduces strategy as a process of monitoring, acting, and interpreting (Maitlis & Christianson, 2014) Everything is directly related to organizational performance. Therefore, the three stages include: searching for the environment to collect information on the potential for environmental change, interpreting the results of information gathering, and analysing. Sense-making co-occurs in other parts of the environment, but conceptual cognition, technology, and policy will affect the stage of the procedure of sense-making (Maitlis & Christianson, 2014)

As a result, to gather market knowledge and take strategic action using reason and senses, market sensing focuses on customer service, competitors, market innovation, and changes in a healthy environment (Ahmed et al. (2017). However, Indonesia still needs to improve its economic competitiveness by making breakthroughs, including innovation in several aspects. The ability to gather, filter, and analyze information on market needs based on the existence of information technology and, at the same time, raise the chances of successful commercial innovation is known as market sensing ability (Lin & Wang, 2015).

Response (R)

The response is based on the benefits of information and is used as a basis for making decisions (Dias & Lages, 2021). In other words, feedback, report evidence, finished goods, and intangible knowledge or services transform marketing performance. Companies can generally determine appropriate responsive actions, such as product customization and customer relationship building (Pehrsson, 2014). However, some studies positively and directly influence market response to company performance (AlQershhi, 2021).

Dias and Lages (2021) market sensing is the ability of companies to acquire, disseminate knowledge, and change organizational needs, based on market information. The acquisition of information about competitors and consumers, while organizations related to market sensing achieve a competitive advantage via learning about the market environment so that business performance is superior (Khristianto et al., 2021). The business performance consists of profitability and growth, while three other indicators of sales growth, sales volume, and customer growth (Darmanto et al., 2014). Below are the market sensing and other variables that interact, as in Figure 1.

Technological innovation (TI) and marketing performance (MF)

Hervas-Oliver et al. (2021), Technological Innovation can be divided into two categories: product and process innovation; this is the researcher's interest in conducting research. Technological Innovation is a tendency and problem the labour market faces due to technological change (Matuzeviciute et al., 2017; Pozo et al., 2019). However, Technological Innovation is different in its effect on performance (Hao et al., 2012).

To a certain extent, the company has been operating longer and has more experience, so it can develop, improve its technology, and achieve optimal conditions (Lyytinen et al., 2016; Oduro et al., 2021). Therefore, reengineering activities have an impact on improving technology innovation and new product development requires new ideas, it's an effect on marketing performance.

Marketing innovation (MT) and marketing performance (MF)

Marketing innovation is the ability to describe industrial models to create new consumer values, dare to compete, and produce new products for stakeholders (Day & Schoemaker, 2016 Rosário and Raimundo (2021). Chummee (2021), Marketing innovation used as development: new marketing models and

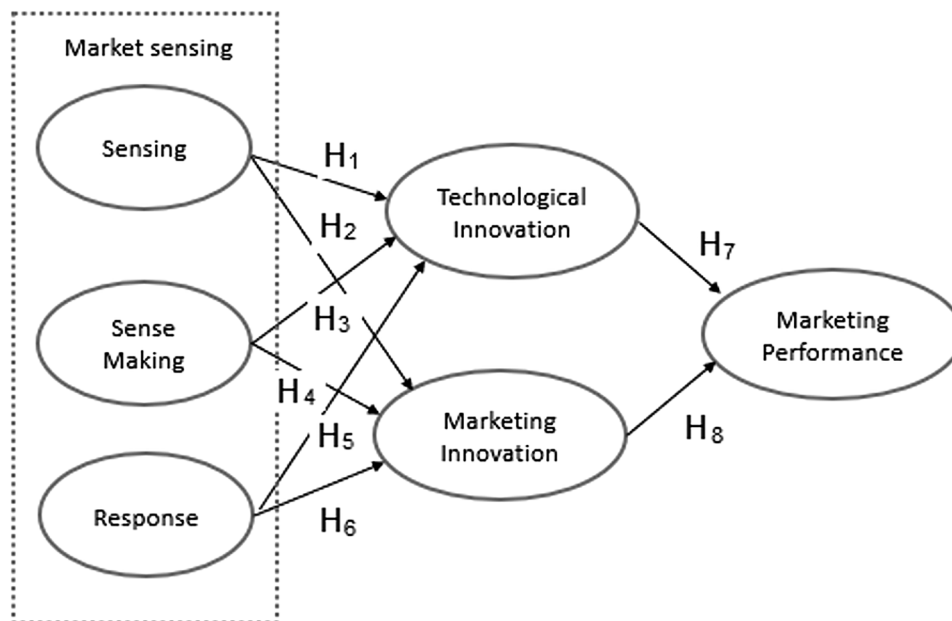


Figure 1. Conceptual research model.

methods. Two types of marketing innovation can be used as a reference: first, competence to obtain adequate consumer information, and second, it can reduce costs for consumer transactions. In this case, marketing innovation, the behavior or innovation is to develop a marketing strategy (Tang et al., 2021). The study found that innovation affects the market, increases financial performance, and is a crucial indicator of competitive advantage (Nguyen et al., 2016). Tutar et al. (2015) have found a positive relationship between innovation and marketing performance (Gupta, 2021; Pisicchio & Toaldo, 2021; Sok et al., 2013).

Furthermore, Hao et al. (2012) innovation is essential to company performance, as evidenced by all research results. Diaz-Fernandez et al. (2015), Entrepreneurs can create marketing, enhance customer preferences, and alter consumer behaviour to produce a substantial profit. Results from the previous description, the empirical research model of Figure 1, and the research hypothesis, are as follows:

- H₁. There is a direct effect of sensing on TI.
- H₂. There is a direct effect of sensing on MI.
- H₃. There is a direct effect of sense-making on TI.
- H₄. There is a direct effect of sense-making on MI.
- H₅. There is a direct effect of response on TI.
- H₆. There is a direct effect of response on MI.
- H₇. There is a direct effect of technology innovation on MF.
- H₈. There is a direct effect of marketing innovation on MF.

Research method

The scope of this research is focused on the fashion industry in Indonesia. Location or area of the fashion industry taken from several regencies or cities as a sample among others: Jakarta, Bandung, Semarang, Solo, Surabaya, and Sidoarjo see Table 2. The research instrument is used to collect or obtain research data. The research instrument was given to 142 respondents of small and medium enterprises, emphasizing the focus on small businesses. Besides that, the object of this research has been innovating and

is something new or carrying out various updates that are formed in a product, idea, and design. Thus, technological innovation is an integrated and dynamic process, based on science and technology and systems. This technological innovation involves managerial, competence, network and digital marketing (Edison et al., 2013; Hughes et al., 2018). The sampling technique applies purposive sampling with sample criteria if the company has at least ten years of business experience, while the criteria for respondents from each fashion industry for a position level are Director of Supply Chain Management or Chief Executive Officer.

Sri et al. (2016), The validity test is used to determine whether a research instrument is valid before it is used in a study. The validity test results are declared valid if the Pearson product-moment results are > 0.05 and $\text{sig} < 0.05$. Reliability tests examine an instrument's consistency if it is utilized at any time and the findings are consistent. Reliability test results can be declared reliable if $\text{Cronbach alpha} > 0.60$, then Cronbach alpha if items deleted $< \text{Cronbach alpha}$. Data processing techniques used the SPSS program version 25. The results of the validity and reliability testing are for all indicator items and the sample size used by 30 respondents. The criteria were taken from respondents with the same characteristics as those used to study. The measurement scale for the research instrument uses a Likert scale ranging from points 1 to 5 and which can be seen in Table 3.

As seen in Figure 2, before administering the tool to 142 people, it will be put through rigorous validity and reliability testing. To ensure validity and reliability, it must be proven that the instrument can be used for all indicators (Taherdoost, 2016).

Table 2. Location or area of fashion industry.

No	Regency / City	Number of business units	Percentage (%)
1	Jakarta	30	21
2	Bandung	25	18
3	Semarang	20	14
4	Solo	20	14
5	Surabaya	17	12
6	Sidoarjo	30	21
Total		142	100

Sources: Sample cluster by design research 2019.

Table 3. Result test of instrument.

Variables	Indicators	Validity testing			Reliability testing		
		Pearson correlation	Sig	Remarks	Cronbach's Alpha If deleted	Cronbach's Alpha	Remarks
Sensing (S)	S1	0.947	0.000	valid	0.794	0.847	reliable
	S2	0.959	0.000		0.802		
	S3	0.920	0.000		0.804		
	S4	0.959	0.000		0.802		
Sense-making (SM)	SM1	0.900	0.000	valid	0.787	0.836	reliable
	SM2	0.915	0.000		0.786		
	SM3	0.865	0.000		0.800		
	SM4	0.825	0.000		0.807		
Response (R)	R1	0.815	0.000	valid	0.671	0.754	reliable
	R2	0.861	0.000		0.725		
	R3	0.632	0.000		0.705		
	R4	0.771	0.000		0.790		
Technological Innovation (TI)	R5	0.772	0.000	valid	0.709	0.836	reliable
	TI1	0.940	0.000		0.789		
	TI2	0.807	0.000		0.804		
	TI3	0.852	0.000		0.801		
Marketing innovation (MI)	TI4	0.940	0.000	valid	0.789	0.820	reliable
	MI1	0.899	0.000		0.780		
	MI2	0.832	0.000		0.792		
	MI3	0.912	0.000		0.770		
Marketing performance (MF)	MI4	0.860	0.000	valid	0.787	0.818	reliable
	MI5	0.826	0.000		0.788		
	MF1	0.870	0.000		0.782		
	MF2	0.883	0.000		0.777		
	MF3	0.832	0.000		0.786		
	MF4	0.794	0.000		0.789		
	MF5	0.901	0.000		0.776		

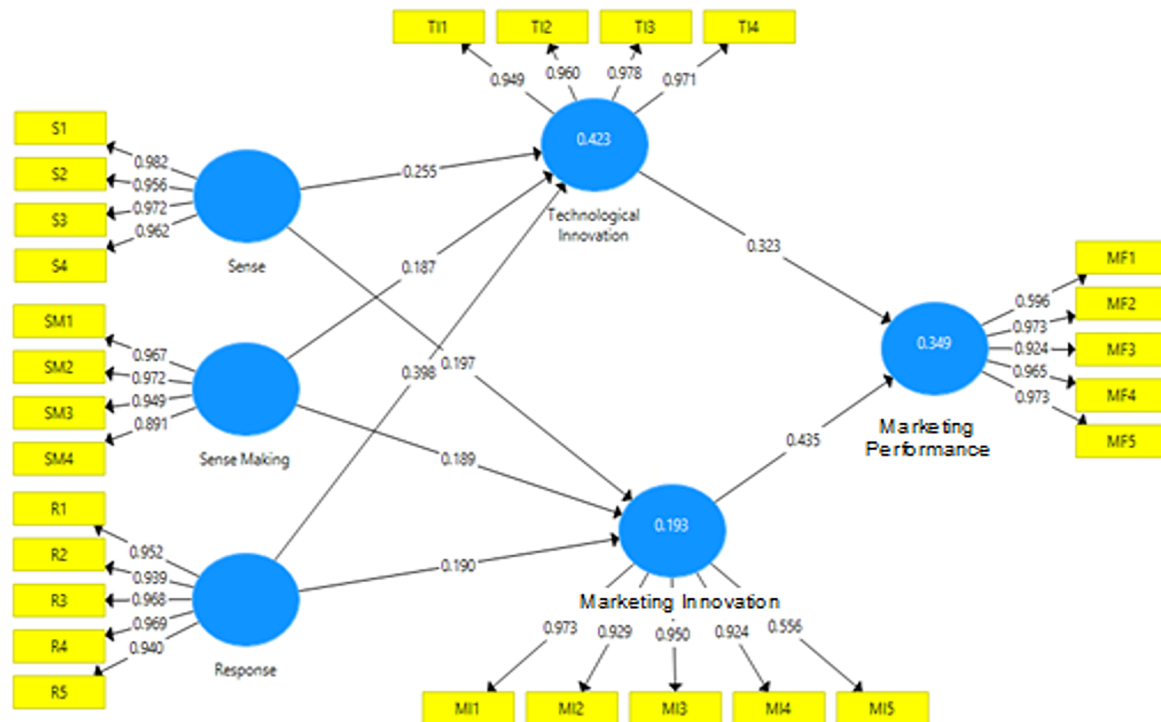


Figure 2. Outer model.

Measurement

Model assessment in PLS-SEM

Assessing a model, with a PLS-based composite approach such as PLS-SEM, there are two PLS-SEM evaluation models namely the evaluation of measurement models and structural models. There are three measurement models with evaluation criteria that are different, because PLS-SEM can utilize predictive-oriented techniques, several of the latest evolution must now be thought out by (Ali et al., 2018; Rigdon, 2012; Sarstedt et al., 2014). Next, we explain establishing a new standard for evaluating models in PLS-SEM.

Evaluation of outer model used for evaluating indicator variables. Indicator variables in the reflective model are highly correlated. While the reflective model evaluation includes reliability indicators, discriminant validity, internal consistency, and convergent validity (Franke & Sarstedt, 2019; Hair et al., 2019; Henseler et al., 2015; Radomir & Moisesescu, 2019).

After evaluating the outer model, which is the measurement model for latent variables, the inner model is evaluated, which reduces the impact of the independent variable on the dependent variable of the latent variable. A fundamental evaluation comprises two steps (Hair, Hollingsworth, et al., 2017; Henseler et al., 2015). (a) Using the significance and dimensions of an impact independent of latent variables, this test determines if the independent variable affects the dependent variable. The effect of each independent latent variable on the path coefficient is then determined. (b) The determination coefficient (R square) quantifies the amount of the dependent variable's variation that is explained by the independent variable.

Because PLS-SEM does not require normal data distribution, assessing the significance with resampling methods such as bootstrapping is possible (Kock, 2018). The recent literature still has limitations in determining the prediction of in-sample models employed to assess the model's performance prediction (Shmueli et al., 2016). In summary, the PLS-SEM, evaluation of measurement models: reflective latent variables and structural equation models, are in Table 4.

Results and discussion

Evaluation of outer model

The outer model evaluation aims to evaluate all indicators including indicators, in Figure 2.

Table 4. Evaluation of the PLS-SEM model.

Author (s)	Indicator	Remarks
Outer model (measurement model)		
Ali et al. (2018)	Indicator reliability	Outer loading ≥ 0.7 for theoretical tests, and $0.5 - 0.7$ for exploratory research
Ali et al. (2018); Franke and Sarstedt (2019); Hair, Hult, et al. (2017).	Discriminant validity	Cross-loading when indicator variables on latent variables have a bigger value than the valuation thirsting. Each latent variable must be higher than the correlation between latent variables.
Henseler (2017) ; Van Riel et al. (2017); Henseler et al. (2015).	Internal consistency	Composite reliability is more than 0.70 for theoretical tests and greater than 0.60 for exploratory research. Cronbach's alpha >0.7 for theory tests or > 0.6 for exploratory research.
Henseler et al. (2015); Hair, Hult, et al. (2017)	Convergent validity	Value of AVE ≥ 0.5 .
Inner model (Structural model)		
Ali et al. (2018)	Determination coefficient (R square) The significance and magnitude of the coefficients of the structural model	R square ≥ 0.75 , it is good Significant

Table 5. Outer loadings.

	Sense	Sensemaking	Response	Technological innovation	Marketing innovation	Marketing performance
S1	0.982					
S2	0.956					
S3	0.972					
S4	0.962					
SM1		0.967				
SM2		0.972				
SM3		0.949				
SM4		0.891				
R1			0.952			
R2			0.939			
R3			0.968			
R4			0.969			
R5			0.940			
TI1				0.949		
TI2				0.960		
TI3				0.978		
TI4				0.971		
MI1					0.973	
MI2					0.929	
MI3					0.950	
MI4					0.924	
MI5					0.556	
MF1						0.596
MF2						0.973
MF3						0.924
MF4						0.965
MF5						0.973

Indicator reliability

Based on Table 5, reliability indicators can be seen from latent variables to indicator variables and all outer loading > 0.7 , except for the indicators MI5 and MF1 whose values ≥ 0.5 (Hair, Hult, et al., 2017), conditions are still acceptable with the assumption reinforced by other convergent validity measures can also be seen in Table 6.

Furthermore, the values obtained for each variable in the structural model for other convergent validity measurements with the average variance extracted (AVE) are all > 0.5 . As a result of these findings, this study of the convergent validity of PLS-SEM structural models has been completed.

Evaluation of discriminant validity

According to the results of the discriminant validity evaluation, the cross-loading indicator variable to the latent variable must have a higher value than the other latent variables. Table 7 describes the evaluation of other discriminant validity with Fornell Larcker.

Table 6. The average variance extracted (AVE).

Measurement	AVE
Sense	0.938
Sensemaking	0.894
Response	0.910
Technological innovation	0.931
Marketing innovation	0.775
Marketing performance	0.807

Table 7. Cross loadings.

	Sense	Sensemaking	Response	Technological innovation	Marketing innovation	Marketing performance
S1	0.982	0.437	0.394	0.495	0.377	0.298
S2	0.956	0.343	0.374	0.447	0.320	0.258
S3	0.972	0.408	0.391	0.491	0.305	0.260
S4	0.962	0.376	0.311	0.430	0.337	0.257
SM1	0.413	0.967	0.296	0.385	0.319	0.187
SM2	0.419	0.972	0.297	0.394	0.330	0.192
SM3	0.403	0.949	0.288	0.383	0.269	0.151
SM4	0.301	0.891	0.350	0.423	0.328	0.207
R1	0.386	0.333	0.952	0.531	0.310	0.154
R2	0.319	0.273	0.939	0.514	0.263	0.177
R3	0.363	0.329	0.968	0.542	0.320	0.172
R4	0.389	0.328	0.969	0.549	0.331	0.191
R5	0.354	0.294	0.940	0.516	0.334	0.147
TI1	0.488	0.427	0.558	0.949	0.182	0.379
TI2	0.457	0.414	0.522	0.960	0.163	0.363
TI3	0.465	0.391	0.535	0.978	0.207	0.426
TI4	0.449	0.392	0.531	0.971	0.212	0.410
MI1	0.358	0.369	0.355	0.206	0.973	0.433
MI2	0.373	0.340	0.336	0.172	0.929	0.448
MI3	0.305	0.315	0.339	0.216	0.950	0.454
MI4	0.294	0.269	0.274	0.186	0.924	0.465
MI5	0.154	0.113	0.072	0.062	0.556	0.411
MF1	0.205	0.123	0.015	0.149	0.512	0.596
MF2	0.273	0.178	0.203	0.426	0.442	0.973
MF3	0.214	0.153	0.136	0.351	0.400	0.924
MF4	0.270	0.197	0.205	0.421	0.449	0.965
MF5	0.269	0.215	0.202	0.445	0.440	0.973

Table 8. Fornell-Larcker.

	Sense	Sensemaking	Response	Technological innovation	Marketing innovation	Marketing performance
Sense	0.968					
Sensemaking	0.405	0.945				
Response	0.380	0.327	0.954			
Technological innovation	0.482	0.421	0.556	0.965		
Marketing innovation	0.346	0.331	0.327	0.198	0.880	
Marketing performance	0.278	0.196	0.176	0.409	0.499	0.898

The root value of AVE for each variable (bold value) in the diagonal row of Table 8 is known to have a higher value than the correlation between research variables (non-bold value). Thus, based on the findings of the cross-loading and Fornell-Larcker analyses, it was deemed that the PLS-SEM analysis's evaluation of discriminant validity was fulfilled.

Evaluation of internal consistency

The composite reliability evaluation findings show that the composite reliability value on each variable > 0.7, as is the value of Cronbach's alpha, which is likewise > 0.6.

As a result of these findings, it is possible to conclude that the composite reliability evaluation from the PLS analysis was met. Table 9 contains figures for composite reliability and Cronbach's alpha.

Evaluation of inner model

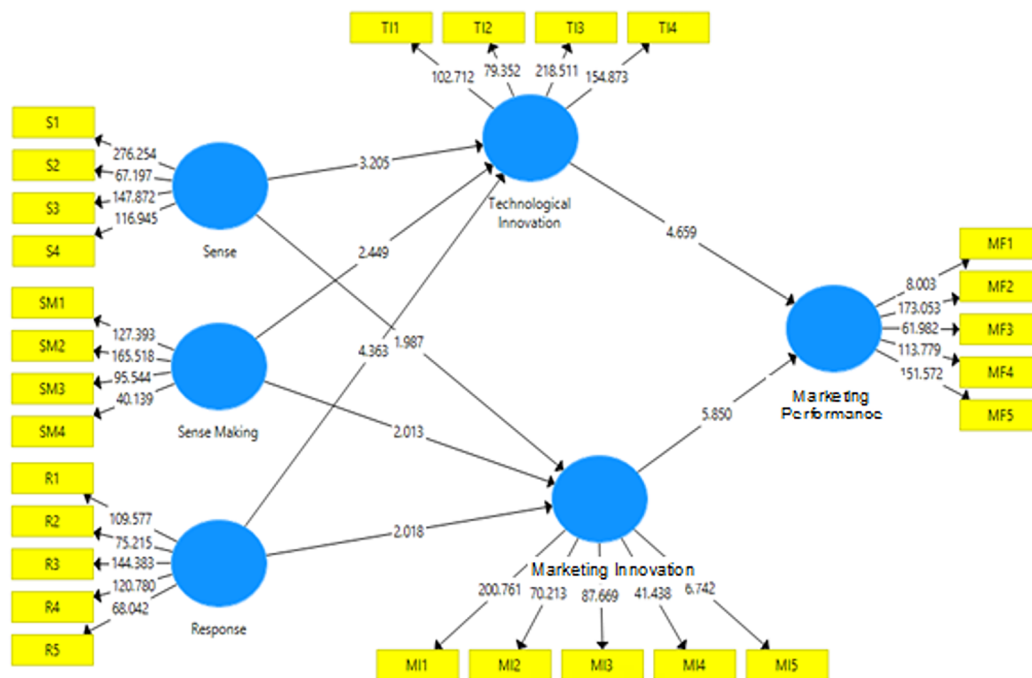
Based on Table 10, the results show the value of R^2 on the technological innovation variable of 0.423 explaining that the technical innovation variable can be accounted for in the sense of sense-making and response

Table 9. Composite Reliability and Cronbach's Alpha.

Construct	Composite Reliability	Cronbach's Alpha
Marketing innovation	0.943	0.918
Marketing performance	0.953	0.932
Response	0.981	0.975
Sense	0.984	0.978
Sensemaking	0.971	0.960
Technological innovation	0.982	0.975

Table 10. R square.

Dependent Variable	R Square
Technological innovation	0.423
Marketing innovation	0.193
Marketing performance	0.349

**Figure 3.** Inner model.

variables of 42.3%. R^2 for the marketing innovation variable known as 0.193 means that the marketing innovation variable can be explained by the sense, sense-making, and response variables of 19.3%. While the R Square variable marketing performance of 0.349 indicates that the marketing performance variable sums up by the technical and marketing innovation variables of 34.9%. Overall, the structural model explains the diversity of research data as indicated by the value of Q^2 through calculations as follows:

$$\begin{aligned}
 Q^2 &= 1 - [(1 - R_1^2) \times (1 - R_2^2) \times (1 - R_3^2)] \\
 &= 1 - [(1 - 0.423) \times (1 - 0.193) \times (1 - 0.349)] \\
 &= 1 - 0.303 \\
 &= 0.697 (69.7\%)
 \end{aligned}$$

The Q^2 result of 0.697 means that the conformity between the structural models compiled with the research data used is 69.7% (Figure 3).

Evaluation of path coefficient

Based on Table 11, the results for the direct effect on the structural model can be explained as follows: as reference original sample (O) all variables are positive, T statistic more than 1.96 and

Table 11. Path coefficients.

Hypothesis	Original sample (O)	Sample mean (M)	T statistics (O/STERR)	P values
Sensing → Marketing innovation	0.197	0.204	1.987	0.047
Sensing → Technological innovation	0.255	0.247	3.205	0.001
Sense-Making → Marketing innovation	0.189	0.199	2.013	0.045
Sense-Making → Technological innovation	0.187	0.184	2.449	0.015
Response → Marketing Innovation	0.190	0.194	2.018	0.044
Response → Technological Innovation	0.398	0.404	4.363	0.000
Marketing Innovation → Marketing performance	0.435	0.440	5.850	0.000
Technological Innovation → Marketing performance	0.323	0.323	4.659	0.000

p-value $0.000 < 0.05$, which means has a positive and significant effect. Based on the hypothesis (H_1 , H_2 , H_3 , to H_8) it can be concluded that all variables are declared to have a positive and significant effect.

Limitations of The study

Based on research and data processing, there are several limitations of this study, including: First, from the instruments distributed to 142 respondents, the criterion for establishing a business is a minimum of 10 years. This research only looks for and ensures that the fashion industry with the criteria has been established for 10 years, so it takes time because several databases from the Department of Industry and Commerce in each city have not been updated. Another thing is that the number of surveyors involved is only limited to the cities of Jakarta and Bandung; the cities of Semarang and Solo; Surabaya and Sidoarjo only have 2 surveyors each, while the places between companies are not all close together. Second, based on data processing, to obtain good data, several stages are needed, including before distributing the instrument to prospective respondents according to a predetermined number of samples, the researcher first tested the validity and reliability of the instrument, and by doing it repeatedly until it resulted in all indicators being declared valid and reliable. Third, the sample size in this study was taken with a sample size that was too small, only 142 respondents, there is a problem with the singular matrix during the calculation process. The solution is to reduce the number of variables in the research model or increase the sample size.

In particular, the market-sensing ability variable as measured by indicators of strategic information about competitors must be an important and needed indicator for SMEs.

Based on the results of the discussion and analysis of research results, it is hoped that managerial implications will be useful for stakeholders: Government, Owners, Academics, and for Practitioners, where the implications in this research are as follows: (1) Based on the background of this research, the fashion industry is a very important contributor to the economy in Indonesia, but in fact there has not been much innovation in products, so it does not show any significant changes in the function or use of these products. The company's mission to innovate is the company's goal (Kanagal, 2015), apart from that, companies need to carry out strategies in a competitive environment (Ahmed et al., 2017). The results of the analysis of resources show that resources should not be ignored and instead become a concern (Sugiyarti & Ardyan, 2017), so that when the owner recommends developing the business or executing the company (De Silva et al., 2021) (2) Public awareness of local products is one of the biggest difficulties, namely public awareness of buying local products, because there is a tendency for people to like export products, namely consumers chasing foreign brands, perhaps because of good quality and affordable prices. (3) There is a phenomenon that designers are idealists, which has an impact on designers making it difficult to develop because they do not consider market tastes, both local and international consumers. (4) The role of the Indonesian Government really contributes to making Indonesia the center of world fashion in the future, so that the Government's support is not only during event performances but is less tangible. We hope that the Indonesian government can provide greater assistance to the Indonesian fashion industry.

Conclusions and future research

Conclusions

In conclusion, this study attempts to respond to the research purposes. The findings provide five valuable contributions to the literature as a result. First, this study empirically proves new relationships in an integrative model demonstrating that based on the hypothesis (H_1) and (H_2), Sensing (S) gives a positive and significant effect on technological innovation and marketing innovation, confirming the (Ahmed et al., 2017). The second, the findings regarding hypothesis (H_3) and (H_4), also indicates a positive and significant relationship between sensing making (SM) on the effect on technological innovation and marketing innovation and argues that market sensing is strongly supporting innovation (Lin and Wang, 2015) and (Zhang et al., 2021) consideration of marketing innovation. The third, based on the hypothesis (H_5) and (H_6), another attractive pattern among the variables has a positive and significant relationship between response to technological innovation and marketing innovation, via information responses, and intangible knowledge then is transformed into tangible marketing (Dias & Lages, 2021).

Fourth, based on the hypothesis (H_7 and (H_8), the result emerges that variables of technological innovation and marketing innovation on marketing performance have a positive and significant relationship. Fifth, this is reflected by the interaction relationship among the variables of technological innovation and marketing innovation as mediating among market sensing on marketing performance, this study supports the results of previous studies (Lim, 2021).

Based on this research, further research can be carried out: First, further research is expected to be carried out by replicating so that a comparison can be made between the research that has been carried out and future research. Second, further research is expected to use interview or observation techniques other than a research instrument to collect more data from the fashion industry SMEs that have not been included in the research sampling. that such a singular matrix problem occurs during the calculations. Third, suggestions for future researchers to add a sample size of more than 142 respondents or at least 200 respondents. Fourth, add the hypothesis which states that the technological innovation and marketing innovation variables are mediating variables. Fifth, its necessary hypothesis of Technological Innovation (TI) has an influence in mediating Sensing (S) or Sense-Making (SM) or Response (R) on Marketing Performance (MF) and hypothesis of Marketing Innovation (IT) has an influence in mediating Sensing (S) or Sense-Making (SM) or Response (R) on Marketing Performance (MF).

Thus, the data collected will vary to describe the condition of objects and subjects more comprehensively.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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