



Sustainable of Supply Chain Through Smart Technology in Indonesian Retail MSMEs

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Abstract. Order fulfillment is an essential process in managing the supply chain. The success of manufacturers competing throughout the supply chain depends partly on the business model that determines the inventory level that must be held to fulfill an order. However, the order fulfillment process is not limited to order fulfillment. It is about designing networks and processes that enable businesses to meet customer demands while minimizing overall transportation costs. This includes more than logistics and should be implemented across functionality, with a critical supplier and customer coordination. The purpose of this white paper is to extend existing empirical literature on knowledge-based theory by focusing on the precursors of innovation and the impact of distribution management and smart technology on MSME's competitive advantage in retail. Based on knowledge-based theory, innovation and sustainability research has become a priority area of interest, but in the context of the retail MSME sector, there is still little research that leads to it in terms of knowledge-based theory (KBV). To achieve the above objectives, the proposed theoretical model was tested through an empirical study conducted on 355 samples of retail MSME owners or managers in Indonesia. Data analysis used structural equation modeling partial least square analysis technique with smart-pls software. The results obtained confirm the structure of the relationship between variables and the direct and indirect effects of innovation on sustainable competitive advantage in retail MSMEs. In addition, the expected results show that good distribution management and the use of smart technology can increase sustainable competitive advantage at the MSME level retail business.

Keywords: Innovation · Smart Technology · Distribution · SCA · MSME

1 Introduction

The market digitization process has progressed in recent years due to the changing environment. Information and communication technology (ICT) is one of the components changing the relationship between commerce and shoppers, particularly with the advancement of counterfeit insights (AI). In expansion, the worldwide emergency caused by COVID-19 has quickened the method of digitizing companies and is right now one of the beat needs of most directors. Without a doubt, the widespread has tried thousands

of conventional businesses. After closing their entryways to the common open, they are constrained to utilize modern strategies to pull in buyers and offer their items to maintain and survive operations. Be that as it may, digitization may be a handle where distinctive retailers can be at distinctive stages of advancement, and the joining of counterfeit insights is an extra step that can bring modern openings for client connections.

Retail, one of the sectors most affected by the economic crisis caused by COVID-19, saw sales decline by almost 18% in Spain. In this sense, these tools are positioned as strategic points to rely on to survive and be competitive. Regarding this modern approach, a few ponderers recommend that the longer term of retail should be drawn closer from two viewpoints which are innovative and maintainable [1]. Advancement and supportability are seen as the most columns for basic retail rebuilding. In addition, these variables have been recognized as vital components for the advancement of competitive advantage and the survival of the firm [2]. In this respect, a few ponderers have appeared that retail designs that apply inventive and feasible ways of everyday exercises are more fulfilling to clients and, as a result, hold them [3]. Be that as it may, based on existing investigations, the benefits that retailers can determine from receiving inventive and maintainable hones may be affected by the organized store [4].

In this regard, ICT-based retail innovation and sustainability research have emerged as priority areas of interest. Examining customer discernments of a company's level of mechanical headway, and executing activities related to supportability and advancement within the retail industry, creates alluring capital. This intrigue is higher given the current environment in which commercial companies trade. Be that as it may, there is still a small investigation to direct it within the setting of the retail division and from a buyer's point of see. This work proposes an analysis of ICT as an energetic component of advancement and maintainability within the retail industry. In expansion, this considers points to explore ICT's coordinated and roundabout effect on maintainability through the intervening impact of advancement. This consideration looks at the moderating impacts of store groups and conceivable contrasts within the connections raised from a consumer's point of view. With all this in intellect, we will attempt this assignment based on an arrangement that considers retail advance based on two principal columns: development and maintainability [4]. This effort argues that current retail and commercial distribution business models need to be built from two perspectives to ensure success in the marketplace. Trade must be innovative and sustainable. Therefore, we will consider innovation research from the approach proposed by [5] and conduct a sustainability analysis by considering the triple bottom line theory proposed by [6].

The Knowledge-Based View (KBV) was initially developed as an explanation for the existence of firms – primarily as an alternative to transaction cost theory. “Their company exists to provide a social community Voluntary behavior built by organizations The principle that cannot be returned to individuals” After Contributions are more accurately clarified The Company's Role in Integrated Expertise-Personal advantage to produce goods and services and conditions Under that, companies outperform the Search market Knowledge Base In providing efficiency-based reasons Due to the existence of the company, KBV also offers predictions about the boundaries of the company [7, 8].

1.1 Innovation

Innovation is essential to economic development and company competitiveness [9]. In this sense, advancement is displayed as a capital figure for riches creation and financial development, empowering businesses to get to modern sections, be more competitive, and guarantee their extension [10].

Moreover, innovation is an essential factor for the long-term viability of a company, even if the market environment in which it operates is characterized by a high degree of complexity and volatility [11] work on innovation in the corporate sector from a strategic perspective, emphasizing that innovation is the basis of a company's corporate strategy. This vision has been adopted by Fioravante [12]. From a retailer's point of view, he includes that development in dispersion channels serves two purposes. On the one hand, it has to be seen as a critical development not because it was for scattering companies but for mechanical organizations, building up a competitive advantage as one of its principal targets. On the other hand, movement channel advancement must serve as a catalyst, a critical calculation in driving changes inside the money-related working of the scattering system.

Development within the retail industry could be a structure that started to pick up capital intrigued within the past, much appreciated in portion to the advancement and advancement of modern advances. Until that point, commercial dispersion advancement was fundamentally concerned with the changes created due to the advancement of store groups [13]. Nevertheless, innovation research is starting to be approached from another perspective, further highlighting the evolution of the relationship between products, brands, pricing models, and channel members. All of these regard consumers as the basis of this evolution. Moreover, retail innovation is conceptually observed as a response to a globalized market environment. Therefore, Realff et al. [14] Explain changes that occur in supply chains, product variety, store formats, and the brand itself, both in product and retail formats, taking into account the impact of globalization.

Distinguishing and characterizing the distinctive sorts of advancements is never a simple errand within the field of marketing. One of the foremost broadly referenced bunches within the writing is the bunch that recognizes between advancement and non-innovation [15]. Innovation includes: (A) Product innovation. (B) Process innovation. Non-technical innovations are grouped together, but (a) organizational innovation. (B) Marketing innovation. (C) Relational innovation. Product innovation is understood as an improvement or variation of an existing product or the introduction of a new product that has never been sold [16]. Handle development comprises the execution or appropriation of generation strategies which may incorporate changes in hardware, workforce, or work strategies [17]. Considering non-technological innovation, organizational development implies the improvement of unused procedures and organizational shapes that straightforwardly or in a roundabout way influence the fundamental exercises particular to trade firms [18]. On the other hand, marketing innovation is defined as a change in the marketing of a product or service that occurs in terms of design or packaging, positioning, promotion, or price [19]. Finally, relationship innovation is associated with increased trust, loyalty, and relationship quality among stakeholders [20]. The approach we embrace in this work considers advancement from the point of view presented by Ma et al. [21], who postulate a three-pronged approach to the concept of innovation

in marketing: product innovation, marketing innovation, and relational innovation. In addition, following this author's proposal, the innovation concept will be approached from an owner's perspective.

1.2 Sustainable Competitive Advantage

Competitive advantage is defined as a business creating higher economic value than its competitors' economic value [22]. According to Tumonglo et al. [23], Competitive Advantage is the company's performance in using tools to meet customer demands. It is well known that many companies need to be aware of the most challenging task to gain a competitive advantage across sectors. An intensifying international competition will lead to a greater emphasis on achieving SCA. Barney [24] recognizes that companies can claim to have successfully implemented strategies that create value for them. If other companies cannot duplicate the technology results, you can validate the entity according to SCA. Khan et al. [25] describe two types of competitive benefits: sustainable and temporary.

However, it is often motivated by high profits, and competition shortens the time to gain a competitive advantage. Therefore, for most companies, their competitive advantage is only temporary. Rivals cannot reproduce their position's reasons, but they have a competitive advantage. Competitive advantage is critical to firm performance [26] and should not be compromised by incorporating new technologies, core skills, and capabilities into the business. SCA found that it depends not only on money but also on knowledge of hotels and physical characteristics of education. The views of customers and competitors need to be considered when evaluating strategies for achieving SCA. As core competencies influence SCA outcomes, companies must develop skills and resources to adapt quickly to evolving opportunities [27]. According to Barney (1991), the likelihood of SCA generating corporate wealth is based on four indicators. That is, it is not interest, rarity, replication ability, or alternatives that have developed SCA for immovable tools, core competencies, competencies, and very different abilities. The current study shows that SCA is influential in determining a hotel's long-term viability in a highly competitive market. To define the hospitality industry SCA, we envisage another strategy that may take a long time before another new strategy is updated or expanded.

1.3 Distribution

The Internet has become an important channel for retailers. 2004, online retail sales. It accounts for about 5.5% of all retail sales except travel [28]. Many brand names recognized the great potential of the Internet to reach their customers, so direct channel operations were added. Direct sales Customers are chasing more and more companies. No more competing business like an independent business, but a complete supply chain to another supplier chain. Instead of brand-to-brand or shop-to-store, now Supplier Brand Stores vs. Supplier Brand Stores, or Supply Chain vs. Supply Chain [29]. The retail sector has identified an essential role in supply chain management for a long time. Supply Chain connects suppliers, organizations, customers/consumers. The activities carried out can be carried out inside or outside the organization. It enables a complete Value Chain,

product availability, and service to the end of the Customer/Consumer [30]. The retail sector has seen many technological advances that enhance external trends. Collaboration based on information sharing brings optimization and growth Efficiency to supplier and customer organizations [31]. Visibility facilitates internal decision-making and improves operational performance. Despite the continued growth of e-commerce, the focus seems to be biased toward sales, marketing, and supply chains. It remains an overlooked space. The supply chain forms the backbone of everything in a business, where the entire network supports the business and its customers. That is all in business; supply chains create market value [32].

1.4 Technology

A literature review has revealed that ICT research is one of the hottest topics among researchers in various fields of study [33]. Traditionally, ICT has been associated with a set of “applications used in an organization: office automation, transaction processing systems, enterprise resource planning systems, Dataware housing systems, groupware applications, intranets, and management information systems.” It has been—[34]. Nowadays, ICT is not as it was seen as one of the most donors to trade victory but too as a perspective related to the advancement handle of companies, counting retailers. This instrument is imperative for creating a competitive advantage since it gives arrangements within the administration and improvement of items and administrations and includes esteem to clients [35].

We have not only investigated the benefits ICT can bring to enterprise management, but also various ponders appear that it could be a crucial column of the improvement of inventive forms in an organization [36]. In this sense, many conceptual and empirical studies have attempted to explain the relationship between ICT and innovation. Here, ICT is presented as an essential element in paying more attention to relationships with various members of the distribution channel, especially customers. On the other hand, ICT is seen as a factor that facilitates the effective development of knowledge and innovation, which are the determinants of a retailer’s economic growth.

Many developments from these innovations include e-commerce, point-of-sale (POS) terminals, barcode systems, optical readers, and electronic data interchange (EDI) systems, namely ICTs that are directly connected to end users increase. The application of data innovation all through the item improvement preparation until it is sold to the ultimate buyer. These procedures are assembled beneath what is presently called fake insights, where the advancement of virtual colleagues, cleverly mechanical technology, and misfortune of tils are of specific concern [37]. In this way, by utilizing ICT, companies can get critical data such as shopper needs, desires, and buying behavior, contribute to developing development within the retail industry, and give customized administrations to customers. So it is evident that companies with solid and imaginative character tend to execute and utilize ICT in their business. In expansion, the usage of retail ICT includes a direct affect on the point of view of companies and buyer behavior. For all these reasons, ICT may be a consumer’s store picture, in expansion to diminishing costs, expanding showcase share, expanding client fulfillment, or expanding buy eagerly.

The utilization of manufactured insights within the retail industry is getting to be a progressively huge issue, upheld by the expansion of online shopping, the improvement of unused consumer habits, and the rummage around for commerce models that have comparable characteristics to rebate stores [38]. In this way, the retail sector is rapidly turning to machine intelligence, efficiently simulating human intelligence, reducing costs, and improving customer experience, making it more competitive. In this regard, several authors have attempted to describe the consumer shopping experience in businesses implementing ICT, which is directly related to AI [39]. In any case, the commitment to this arrangement of considers is still little and considers the attempt to clarify the most qualities and shortcomings of this sort of apparatus from the viewpoint of companies and buyers is still at an exploratory level.

Taking these factors into account, we will further develop the following four hypotheses with respect to the business retail supply chain.

H1: There is an influence of innovation on online distribution

H2: There is an influence of innovation on smart technology

H3: There is an effect of online distribution on sustainable competitive advantage

H4: There is an effect of smart technology on sustainable competitive advantage.

2 Methods

This research is empirical (based on primary data), explanatory (examining cause and effect relationships), deductive (testing research hypotheses), and quantitative (including analysis of quantitative data collected using structured questionnaires).

2.1 Data Collection and Participant Demographics

Data was collected from 335 respondents who owned retail services and filled out questionnaire data. The owners of retail services are dominated by young entrepreneurs and female gender and staff status. Based on ownership, independent retailers dominate the statistical data. Convenience store with direct selling service with SMS predicate is a reflection of this research (Table 1).

An Independent sample t-test was conducted to control whether sector differences and sample firm size could be considered significant limitations for the overall validity of the study. Specifically, we tested whether sectors and measures differentiated the mean scores of various study factors (INN, DIS, TECH, SCA. The corresponding statistical analysis (SmartPLS 3.) revealed no significant difference. Statistically significant among the mean scores of these factors. Therefore, size and sector impacts were not of concern for this study.

The questionnaire was tested for content validity and configuration. Content validity is assessed through discussions with scholars, and experts in their fields, discussions with educated translators, and examinations. After the procedure is complete, some details (questions) are minor fixes. The validity test of the composition of the questionnaire was carried out in two ways. Specifically, each research element was estimated to be one-dimensional and reliable to improve compatibility with the proposed exploratory model. One-dimensional estimation was carried out using explanatory factor analysis,

Table 1. Respondent Demographics

Variable	Category	Total	
		N	%
Age	Under 30 years old	271	76.34
	31–40 years old	51	14.37
	41–50 years old	26	7.32
	51 and over	7	1.97
Gender	Male	174	49.01
	Female	181	50.99
Occupation	Manager	15	4.23
	Owner	113	31.83
	Staff	207	58.31
	Supervisor	20	5.63
Ownership	Corporate Chain	28	7.89
	Dealer	16	4.51
	Franchising	68	19.15
	Network Marketing	11	3.10
	Retail Independent	179	50.42
	Existing Retail	53	14.93
Product Retailing	Combination Store	35	9.86
	Convenience Store	100	28.17
	Department Store	61	17.18
	Food and Drug Retailer	90	25.35
	Superdrug Store	31	8.73
	Other	38	10.70
Service Retailing	Non-Goods Service	10	2.82
	Other	308	86.76
	Owned Goods Service	24	6.76
	Rented Goods Service	13	3.66
Non-Store Retailing	Direct Selling	124	34.93
	Electronic Shopping	70	19.72
	Mail order	14	3.94
	Phone and Mobile Retailer	65	18.31
	Vending Machine	6	1.69
	Other	76	21.41

Table 2. Factor and research instrument

Factor	Items	Reference
1. INN	5	[40]
2. DIST	21	[41]
3. TEC	16	[42]
4. SCA	4	[43]

and reliability estimation was carried out using the Cronbach dimension. All statistical indicators calculated in this analysis are also in good condition (see Table 2). Therefore, the final score for each factor was calculated using the subfactor normals used in each case.

3 Results and Discussion

3.1 Reflective Model Analysis

Based on the comes about of running information utilizing the smart-PLS program, congruity was obtained. The investigation demonstrates the criteria required for the external smart-PLS demonstration, to be specific the intelligent show measured by loading indicator (>0.5); Cronbach's alpha & rho_A with a value of >0.6 composite reliability quality with a value of >0.7 and AVE >0.5 [44] The following Table 3 presents the Reflective Measurement Models factor for all constructs

Table 3 shows that all Cronbach alpha values >0.6 composite reliability with values >0.7 and AVE >0.5 . Thus, all of the outer model criteria are met. R square is above 0.67 strong, between 0.67 to 0.19 moderate, and below 0.19 weak, Hair, adding an R-value of >0.7 strong. So all the variables in this study are categorized as having a strong relationship (Fig. 1 and Table 4).

The significance of the level of statistical measurement criteria in this study shows a good predicate. The relationship between the variables studied and the research indicators have high confidence.

3.2 Analysis of Direct and Indirect Effects

The direct and indirect effect statistical calculation is obtained by running the bootstrapping process (Fig. 2).

Every online retail business needs a business model in which the mission, goals, and objectives are defined. The ubiquitous presence of the Internet makes its presence dominant in all domains. In the online buying space, consumers tend to look for product information before making a purchase. Some retailers also have a strategy of using price as bait to lure customers/consumers to their sites and products. While other retailers focus on acquiring new customers by offering a personalized assortment, range, size, or segment. The analysis conducted through structured equation modeling also clearly

Table 3. Results Summary for Reflective Measurement Models

Latent Variable	Indicators	Loadings	Indicators Reliability	Cronbach Alpha	Rho_A	Composite Reliability	AVE	Discriminant Validity
Innovation	INN1	0.7063	0.2744	0.8231	0.8256	0.8763	0.5872	Yes
	INN2	0.7262	0.2236					
	INN3	0.8094	0.2560					
	INN4	0.8303	0.2765					
	INN5	0.7518	0.2754					
Distribution	DIS1	0.7218	0.0644	0.9556	0.9574	0.9596	0.5321	Yes
	DIS2	0.7454	0.0637					
	DIS3	0.6933	0.0564					
	DIS4	0.7078	0.0613					
	DIS5	0.7127	0.0575					
	DIS6	0.8015	0.0674					
	DIS7	0.7537	0.0744					
	DIS8	0.8139	0.0721					
	DIS9	0.7853	0.0730					
	DIS10	0.6315	0.0558					
	DIS11	0.7075	0.0616					
	DIS12	0.6424	0.0543					
	DIS13	0.7637	0.0664					
	DIS14	0.7612	0.0645					
	DIS15	0.7112	0.0634					
	DIS16	0.7190	0.0675					
	DIS17	0.7960	0.0772					
	DIS18	0.7033	0.0625					
	DIS19	0.7486	0.0686					
	DIS20	0.7375	0.0718					
	DIS21	0.6227	0.0637					
Technology	TECH1	0.6792	0.0878	0.9341	0.9372	0.9420	0.5055	Yes
	TECH2	0.6822	0.0729					
	TECH3	0.6802	0.0820					
	TECH4	0.6354	0.0792					
	TECH5	0.7591	0.0992					
	TECH6	0.8101	0.1007					
	TECH7	0.7543	0.0876					
	TECH8	0.7479	0.0968					
	TECH9	0.7439	0.0996					
	TECH10	0.7921	0.1023					
	TECH11	0.6999	0.0769					
	TECH12	0.6708	0.0837					
	TECH13	0.6123	0.0764					

(continued)

Table 3. (continued)

Latent Variable	Indicators	Loadings	Indicators Reliability	Cronbach Alpha	Rho_A	Composite Reliability	AVE	Discriminant Validity
	TECH14	0.6473	0.0817					
	TECH15	0.7491	0.0920					
	TECH16	0.6770	0.0820					
Sustainable Competitive Advantage	SCA1	0.7240	0.2767	0.7538	0.7817	0.8431	0.5761	Yes
	SCA2	0.8314	0.3711					
	SCA3	0.8282	0.3930					
	SCA4	0.6350	0.2609					

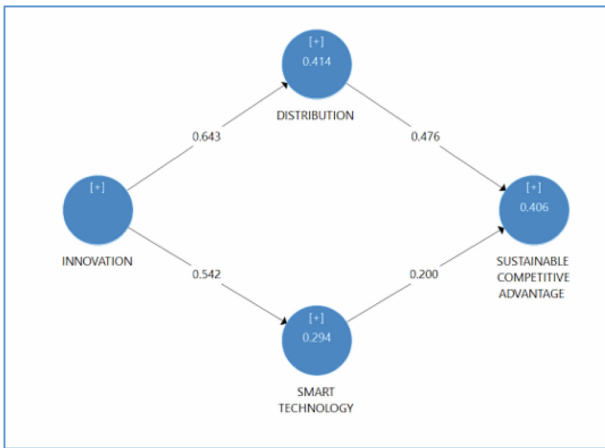


Fig. 1. PLS Measurement Algorithm

shows the operating model’s positive impact on retail, which affects customer retention (Table 5).

The overall model of sustainable competitive advantage in the online retail business includes three basic components: innovation, distribution, and technology. A sustainable competitive advantage is influenced by innovation by mediating online distribution channels and the use of technology. The research proves that the degree of the significance level of the relationship between the variables in the study shows a high predicate with a t statistic of 7.6153. High instrument validation and reliability indicate a critical interaction of innovation on online retail distribution with a statistical t degree of 15.0397. The growing development of new online supply chain business ventures supports the high number of online distribution channels (Table 6).

The competition between distribution channel companies is an added value for economic support for increasing retail business income and meeting consumer needs. The speed and accuracy of package delivery are essential for entrepreneurs. However, it is

Table 4. Outer Weights Significance Testing Results

Formative Constructs	Formative Indicators	Outer Weights (outer Loadings)	t Value	Significance Level	p Value	Confidence Intervals
Innovation	INN1	0.0575 (0.71626)	12.60	***	0.0000	0.6234 (0.7730)
	INN2	0.0673 (0.8014)	11.62			0.6324 (0.7939)
	INN3	0.0743 (0.7537)	16.53	***	0.0000	0.7488 (0.8546)
	INN4	0.0721 (0.8138)	15.10	***	0.0000	0.7829 (0.8683)
	INN5	0.0729 (0.7852)	12.83	***	0.0000	0.6898 (0.8031)
Distribution	DIS1	0.2744 (0.7062)	12.83	***	0.0000	0.6225 (0.7965)
	DIS2	0.0634 (0.7111)	14.63	***	0.0000	0.6475 (0.8156)
	DIS3	0.0625 (0.7033)	12.03	***	0.0000	0.5906 (0.7077)
	DIS4	0.0686 (0.7485)	12.37	***	0.0000	0.6067 (0.7880)
	DIS5	0.0636 (0.7453)	10.88	***	0.0000	0.6055 (0.7945)
	DIS6	0.0717 (0.7374)	14.59	***	0.0000	0.7415 (0.8487)
	DIS7	0.0637 (0.6227)	12.39	***	0.0000	0.6816 (0.8131)
	DIS8	0.0564 (0.6933)	15.09	***	0.0000	0.7517 (0.8624)
	DIS9	0.0612 (0.7078)	14.10	***	0.0000	0.7104 (0.8421)
	DIS10	0.2235 (0.7262)	9.04	***	0.0000	0.5002 (0.7481)
	DIS11	0.2559 (0.8094)	11.78	***	0.0000	0.5952 (0.7939)
	DIS12	0.2765 (0.8303)	9.39	***	0.0000	0.5230 (0.7372)
	DIS13	0.2753 (0.7517)	15.84	***	0.0000	0.6831 (0.8258)
	DIS14	0.0644 (0.7218)	13.48	***	0.0000	0.6866 (0.8252)

(continued)

Table 4. (continued)

Formative Constructs	Formative Indicators	Outer Weights (outer Loadings)	t Value	Significance Level	p Value	Confidence Intervals
	DIS15	0.0577 (0.6315)	12.09	***	0.0000	0.6255 (0.7872)
	DIS16	0.615 (0.7074)	13.11	***	0.0000	0.6396 (0.7886)
	DIS17	0.0543 (0.6424)	13.29	***	0.0000	0.7219 (0.8509)
	DIS18	0.0664 (0.7637)	11.91	***	0.0000	0.6249 (0.7659)
	DIS19	0.0645 (0.7611)	14.46	***	0.0000	0.6545 (0.8198)
	DIS20	0.0675 (0.7190)	12.89	***	0.0000	0.6597 (0.8023)
	DIS21	0.0771 (0.7959)	9.91	***	0.0000	0.5168 (0.7135)
Technology	TECH1	0.0991 (0.7591)	10.18	***	0.0000	0.6119 (0.7937)
	TECH2	0.1006 (0.8100)	7.35	***	0.0000	0.5877 (0.7574)
	TECH3	0.0876 (0.7542)	10.73	***	0.0000	0.5956 (0.7517)
	TECH4	0.0968 (0.7478)	9.97	***	0.0000	0.5324 (0.7201)
	TECH5	0.0996 (0.7438)	11.73	***	0.0000	0.7006 (0.8089)
	TECH6	0.1022 (0.7921)	13.15	***	0.0000	0.7610 (0.8089)
	TECH7	0.0769 (0.6998)	12.60	***	0.0000	0.6948 (0.8046)
	TECH8	0.0836 (0.6707)	12.33	***	0.0000	0.6802 (0.8089)
	TECH9	0.0763 (0.6123)	14.33	***	0.0000	0.6778 (0.8002)
	TECH10	0.0817 (0.6473)	11.35	***	0.0000	0.7402 (0.8376)
	TECH11	0.0920 (0.7491)	8.10	***	0.0000	0.6154 (0.7705)
	TECH12	0.0820 (0.6769)	9.22	***	0.0000	0.5692 (0.7548)

(continued)

Table 4. (continued)

Formative Constructs	Formative Indicators	Outer Weights (outer Loadings)	t Value	Significance Level	p Value	Confidence Intervals
	TECH13	0.2766 (0.7239)	8.51	***	0.0000	0.5172 (0.6932)
	TECH14	0.3710 (0.8314)	9.87	***	0.0000	0.5458 (0.7288)
	TECH15	0.3929 (0.8282)	12.41	***	0.0000	0.6743 (0.8063)
	TECH16	0.2609 (0.6350)	8.79	***	0.0000	0.5693 (0.8063)
Sustainable Competitive Advantage	SCA1	0.0877 (0.6791)	12.26	***	0.0000	0.6285 (0.7917)
	SCA2	0.0728 (0.6822)	13.61	***	0.0000	0.7653 (0.8771)
	SCA3	0.0819 (0.6801)	12.95	***	0.0000	0.7584 (0.8789)
	SCA4	0.0792 (0.6353)	8.38	***	0.0000	0.5079 (0.7244)

Note: NS = not significance

a. Bootstrap confidence intervals for 10% probability of error $\alpha = 0.10$

*P < .10. **p < .05 ***p < .01.

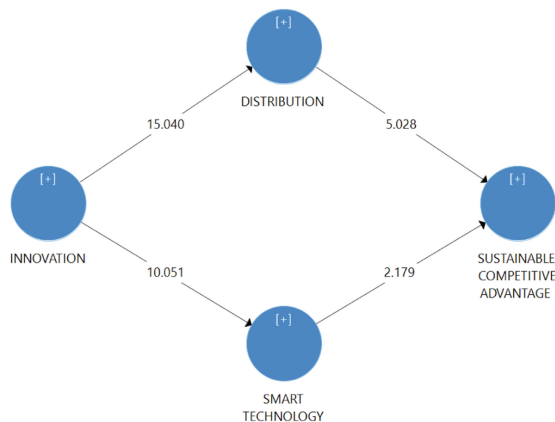


Fig. 2. Bootstrapping Measurement

necessary to improve the relationship between the use of smart technology for a sustainable competitive advantage. Innovation by providing convenience for consumers in

Table 5. Results of Direct Effect Hypothesis Testing

No	Hypothesis	Original Sample (o)	Sample Mean (M)	Standard Deviation (STDEV)	tStatistics (IO/STDEVI)	PValue
1	Distribution → Sustainable Competitive Advantage	0.4760	0.4776	0.0947	5.0282	0.0000
2	Innovation → Distribution	0.6435	0.6444	0.0428	15.0397	0.0000
3	Innovation → Smart Technology	0.5420	0.5445	0.0539	10.0514	0.0000
4	Innovation → Sustainable Competitive Advantage	0.4148	0.4174	0.0545	7.6153	0.0000
5	Smart Technology → Sustainable Competitive Advantage	0.2003	0.1995	0.0919	2.1787	0.0294

Table 6. Results of Direct Effect Hypothesis Testing

No	Hypothesis	Original Sample (o)	Sample Mean (M)	Standard Deviation (STDEV)	tStatistics (IO/STDEVI)	PValue
1	Innovation → Sustainable Competitive Advantage	0.4148	0.4174	0.0545	7.6153	0.0000

using smart devices for daily activities needs to be balanced with the convenience that spoils service both from the consumer and retail business entrepreneur sides. Through the knowledge base view of the ICT structural model with smart retail technology, it is hoped that it can predict and generate wider interest in the frequency of technology use in the future.

4 Conclusion

The effect of innovation on SCA mediated by smart retail distribution and technology is predicted accurately. Retail business modeling by utilizing smart devices and technological developments is an innovative step for the conceptual development of a knowledge-based point of view. Future research is expected to examine the base view's capability to measure the extent to which the level of technology capability can reach consumers more broadly.

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