

## Research on Development Strategy Based on Domestic Sleep Industry Survey

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### **Abstract**

*The domestic sleep industry is rapidly increasing in market size as it is linked to sleep apnea in the long-term care insurance for the elderly and domestic IT technology. In addition, due to the aging society, the government's support policy is also increasing, and many domestic companies are focusing on the sleep industry. Therefore, this study intends to examine the development strategies of the domestic sleep industry due to the increased social interest and corporate activities. To this end, a survey of 108 domestic companies was conducted by means of a Frequency Analysis, revealing some problems, such as poor sleep companies, insufficient resources for technology development, and limitations in distribution channels. As a result, it was found that for the development of the domestic sleep industry, strategies to strengthen the ecosystem, such as softening strategies through the sleep technology culture, strengthening ecosystems such as revitalizing industrial connections, and reforming laws and regulations, are urgent.*

**Keywords:** *Sleep Industry, Frequency Analysis, Ecosystem, Aging Society.*

### **1. Introduction**

The sleep industry trend proposed by Wahab, NA, & Ahmed, YN (2017) is shifting from diagnosis to treatment and prevention, and as a result of examining domestic and foreign literature, the concept of the sleep industry can be classified into the following five categories<sup>[1-2]</sup>. First, the mattress & bedding sector was classified into general products and functional products according to product diversification according to the development of current technology.<sup>[3]</sup> Second, the sleep disease management sector is a medical area for sleep, which consists of medical institutions' medical services, medical devices, and sleep calmers for sleep-related medicines. It consists of sleep's induction-products such as sound sleep relaxation drinks, functional lighting to create and improve an environment for sound sleep, sleep management products such as sound, and applications that provide sound sleep and sound. Fourth, the sleep monitoring section is an area that provides improvement solutions by collecting and analyzing data by monitoring users' sleep patterns and sleep habits using IoT devices and applications.<sup>[4-5]</sup> Lastly, the sleep service sector can be divided into service areas centered on intangible services such as sleep consulting, sleep space provision through sleep cafes, and bedding rental and management. Ultimately, this study aims to derive concrete policy tasks through a survey of the

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Manuscript Received: March. 4, 2020 / Revised: March. 10, 2020 / Accepted: March. 17, 2020

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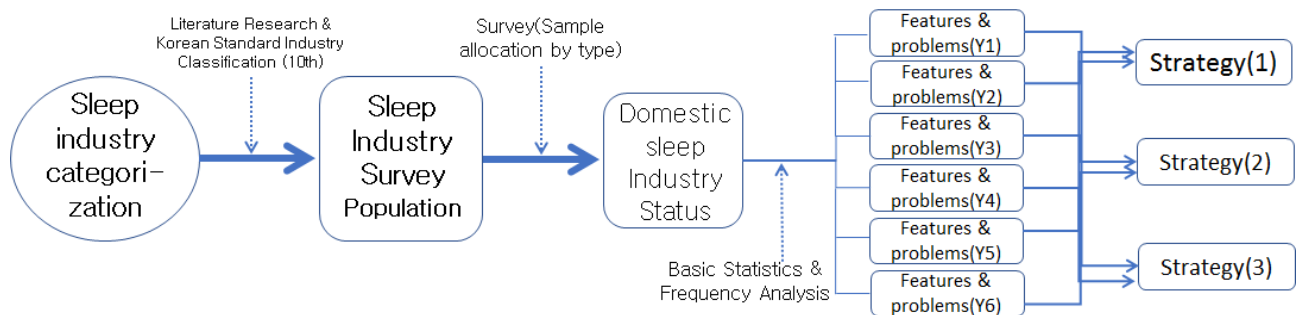
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domestic sleep industry in the middle of a super-aged society. [6].

## 2. Study Method

Based on the results of previous research on the domestic and foreign sleep industry and the '10th Korean Standard Industry Classification' announced by the National Statistical Office in 2017, the industry and items related to sleep services are derived, and referring to the major product groups exemplified according to each item, the sleep industry group is identified. Based on this, a domestic sleep industry survey was conducted. As a result, problems and development strategies were drawn based on the major issues related to the sleep industry development. The sleep industry survey was conducted from mid-May 2019 to early July, and selected 367 target companies from other companies, such as the sleep industry-related mattress & bedding company group, sleep disease management company group, sleep service, etc. Of these, 189 companies were surveyed. It consisted of a total of 33 questions and conducted a self-written questionnaire. The analysis was based on SPSS 21.0 with Basic Statistics & Frequency Analysis.

Figure 1 shows Domestic sleep industry research and development strategy study method.



**Figure 1. Study Method**

## 3. Results

### 3.1 The basic status of the Domestic Sleep Industry

As a result, 108 organizations participated and 59.7% of the companies participated. In the case of the mattress & bedding company, there were a number of companies operating the mattress & bedding business at the same time, which were summed up and 41 of them responded. In the medical group of sleep disease management companies, a total of 11 organizations responded by producing and distributing separate questionnaires, and in the case of positive pressure companies, 37 institutions and 5 pharmaceutical companies participated. In the case of sleep food, sleep related products, sleep monitoring equipment, sleep services, sleep industry associations, and sleep application companies, the size of the population is small and the number of participating organizations is 14 companies, so it was classified as “other”.

Table 1 shows Survey on the basic status of the domestic sleep industry.

**Table 1. Basic Status survey**

Field	Product group	Sample design (population)	Participating institutions	
			Number of organs	Response rate(%)
Mattress &bedding	Medical institution bedding	80(101)	41	51.30

Sleep disease management	Medical institution	36(67)	11	30.50
	Positive pressure	30(98)	37	123.30
	Pharmaceutical companies	15(22)	5	33.30
	Sleep food & related products		1	0
Other	Sleep monitoring device	20(79)	3	70.00
	Sleep service		5	
	Sleep Industry Association		0	
	Sleep application system		5	
<b>Total</b>		<b>181(367)</b>	<b>108</b>	<b>59.70</b>

### 3.2 Five Stages' Analysis

The business development process was analyzed in five stages: start-up, early growth, high growth, maturity, and decline. As a result, sleep disease management companies, sleep ICT companies, and sleep service companies were all identified as the early stages of growth in which new market launches and sales occur. 27.6% of sleep disease management companies and 14.3% of sleep ICT companies were identified as high-growth periods in which 'follow-up new product shipment, product and market diversification, and sales increase' are in progress. [7].

Figure 2 shows Business phase of sleep industry by 5 stages.

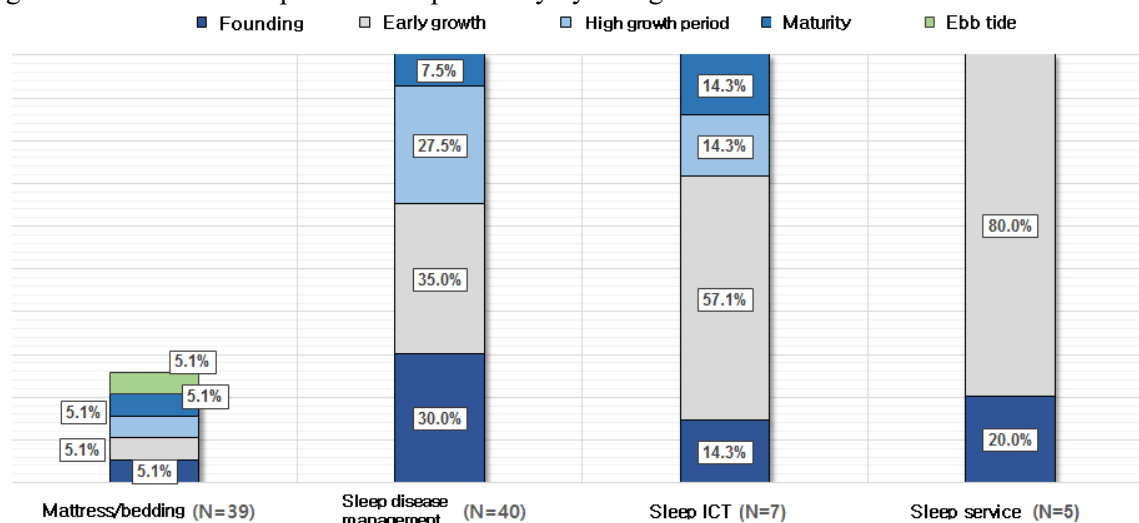
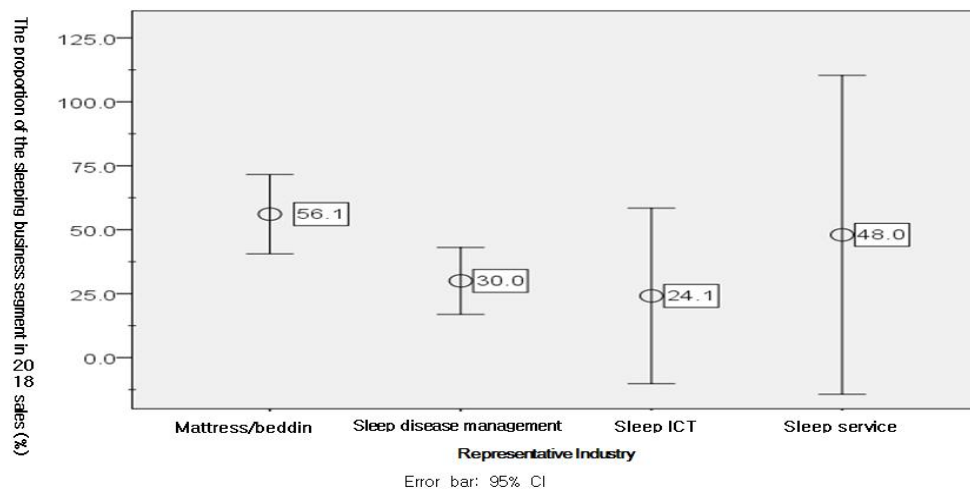


Figure 2. Business phase of sleep industry.

### 3.3 Business Performance's Analysis

As a result of analyzing the business performance of the sleep industry group, the growth rate of total sales in 2018 compared to 2017 by sleep industry companies was 17.7% for mattress & bedding, 7.6% for sleep disease management, 110.9% for sleep ICT, and 156.9% for sleep service companies' sales growth rate has been rising sharply. Among the entire businesses of sleeping companies, the sales portion of the sleeping business group was the largest with an average of 56.1% of the mattress & bedding companies, followed by sleeping services (48.0%), sleeping disease management (30.0%), and sleeping ICT (24.1%).

Figure 3 shows Business performance analysis.



**Figure 3. Business performance analysis' results**

### 3.5 Production performance's Analysis

As a result of analyzing the production performance of sleeping companies, Finished products (76.4%) and OEM (12.8%) of the mattress & bedding company's product types topped the list, and sleep disease management companies followed by rentals (60.7%), finished products (20.7%), and import distribution (13.7%). It showed a large specific gravity. Sleep ICT companies were followed by finished products (62.5%) and licenses (12.5%).

Table 2 shows Production performance's Analysis.

**Table 2. Production performance**

Division	Mattress & bedding	Sleep disease management	Sleep ICT	Sleep service
Finished	76.4	20.7	62.5	32.5
License	0.3	0.0	12.5	0.0
OEM	12.8	0.0	0.0	17.5
Technology/ Service	1.1	2.4	0.0	25.0
Rental	0.0	60.7	0.0	25.0
Import distribution	5.3	13.7	0.0	0.0
Other	4.2	2.6	25.0	0.0
Total	100.0	100.0	100.0	100.0

### 3.5 Distribution channels' Analysis.

As a result of analyzing the distribution channels of sleeping companies, the major retailers of the mattress & bedding industry were wholesale / retail (31.3%), others (28.5%), and consumers (21.2%). The main retailers of the sleep disease management industry were consumers (57.7%), wholesalers / retailers (20.2%), and medical institutions (18.7%), and the main retailers of the sleep ICT industry were consumers (38.8%), others (25.0%), and direct sales (Chain type) (13.8%).

The main retailers of the sleep service industry are consumers (32.5%), hotels and other lodging facilities (30.0%), and internet shopping / home shopping (7.5%). ict companies and sleep service companies were operating sales channels through various distribution channels.

Figure 4 shows distribution channels' Analysis.

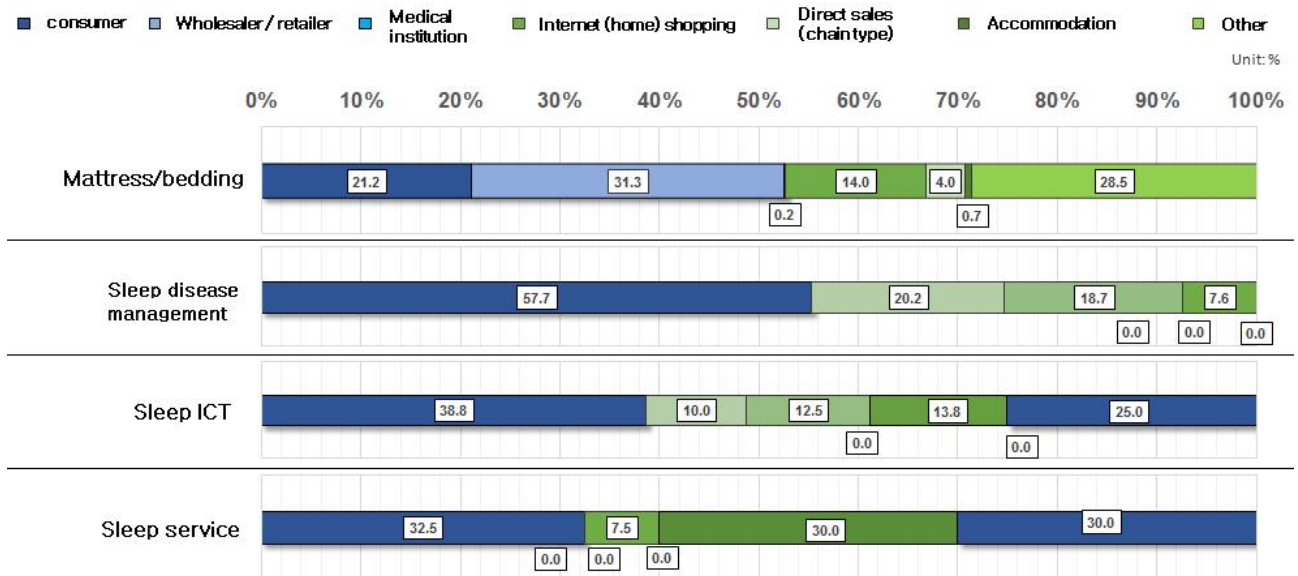


Figure 4. Distribution channels' Analysis

### 3.6 Sleep Industry's Prospects

As a result of research on the prospects of the domestic and foreign sleep industry market, 52 companies in the domestic sleep disease management business, sleep ICT business, and sleep service companies answered. It responded with maintenance (31) and improvement (20), and one company predicted to deteriorate. Among them, mattress & bedding companies (27 companies answered) answered 'maintain' except for three companies, and it is expected that the domestic sleep industry and the global sleep industry will show convergence.

Figure 5 shows Sleep Industry's Prospects.

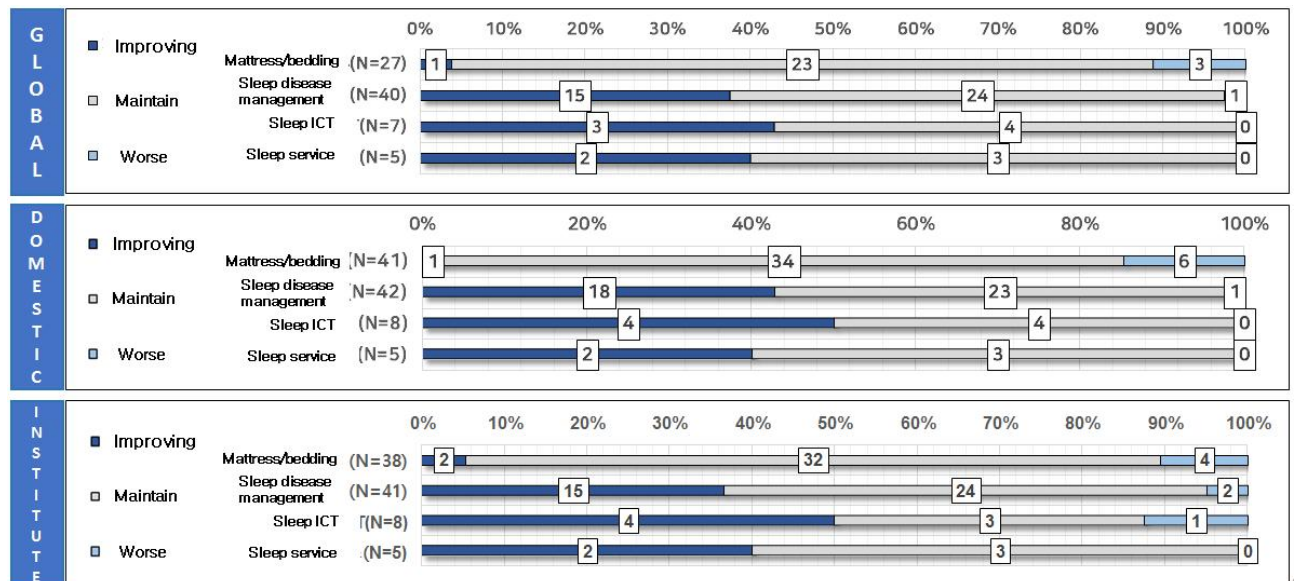


Figure 5. Sleep Industry's Prospects

### 3.7 Dementia diagnosis (monitoring) technology

The domestic sleep industry showed six main characteristics. First, the proportion of small businesses in the sleep industry (55%) and the proportion of small business owners are high, so the technology development power is low. Second, the majority of the domestic sleep industry is in the 'early growth period', making it difficult to link with the rear industry. Third, while the sleep service industry has low scalability to other industries, the sleep ICT industry is highly expandable, and the effect of intensive support is expected. Fourth, with the expansion of the rental business in the field of sleep disease management, it is urgent to develop a legal system related to this. Fifth, in the sleep product development, it is expected that the company support factor for the technology-linked product development strategy will increase the reliability of the sleep industry. Sixth, the overseas advance of the sleep industry is concerned about contraction of investment due to information asymmetry and uncertainty about profitability. <sup>[8]</sup>

## 4. Discussions and Conclusion

As a result of this study, the domestic sleep industry could suggest three dimensions of development strategy. First, the domestic sleep industry showed a high proportion of small business owners and low business maturity, and it was found that a strategy for soft strengthening through product development promotion and industrial linkage strengthening was urgent. Second, the sleep ICT industry is considered to need institutional improvement and training of experts in order to advance domestic IT technology and build synergies. <sup>[9]</sup> Third, it is possible to motivate overseas entry through advancement in sleep technology development, which is expected to ultimately enhance the sleep industry ecosystem. <sup>[10]</sup>

Figure 6 show Sleep Industry's Development strategy.

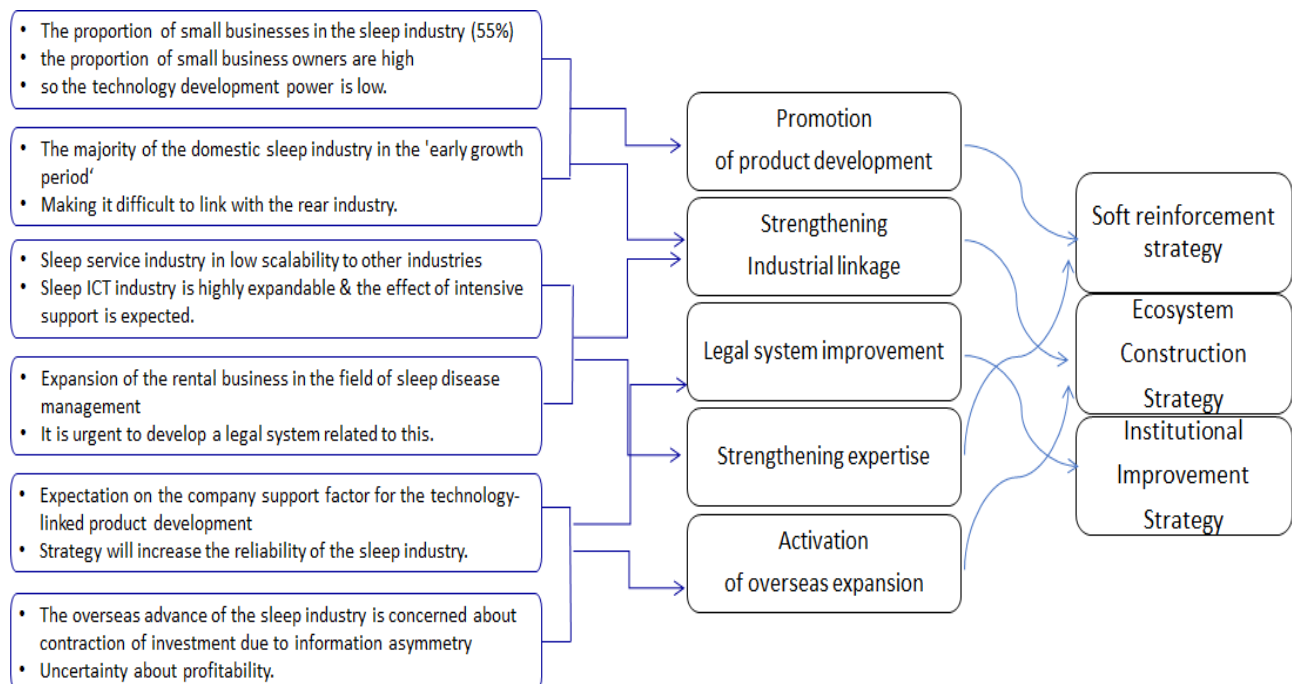


Figure 6. Domestic sleep industry's development strategy

## References

- [1] Wahab, N. A., & Ahmed, Y. N., "Optimal level of continuous positive airway pressure: auto-CPAP titration versus predictive formulas," *Egyptian Journal of Chest Diseases and Tuberculosis*, Vol. 66, No. 2, pp. 353-361, 2017.
- [2] Airhihenbuwa, C. O., Iwelunmor, J. I., Ezepe, C. J., Williams, N. J., & Jean-Louis, G., "I sleep, because we sleep: a synthesis on the role of culture in sleep behavior research," *Sleep medicine*, Vol 18, pp.67-73, 2016.
- [3] Kingston, S, "Insomnia and identity: The discursive function of sleeplessness in modernist literature", 2015.
- [4] Han-soo, kim, "Design and Implementation of an IoT Device for the Effective Screening of Dementia and Mild Cognitive Impairment", *International Journal of Internet, Broadcasting and Communication*, Vol.12 No.1, pp.119-126x, Dec 2019.
- [5] McKinsey & Company, "Investing in the growing sleep-health economy.", 2017
- [6] Tae-Gyu, Yu , " Strategies for Deriving Strategic Products to Enter the Dementia Industry on SMEs-Focused on AHP Analysis" *International Journal of Internet, Broadcasting and Communication*, Vol.12 No.1, pp.61-66, Year Dec 2020.
- [7] Sleep&Sleep, DOI: [http://www.sleepnsleep.co.kr/store/store\\_info07.asp](http://www.sleepnsleep.co.kr/store/store_info07.asp)
- [8] Seong-In Woo, Merry Lee, and Hojun Yeom," A Study of Simple Sleep Apnea Predictive Device Using SpO<sub>2</sub> and Acceleration" *International Journal of Internet, Broadcasting and Communication*, Vol.11 No.4 pp.71-75 Dec 2019.
- [9] Sooyong Cho and Sang Hyun Lee, " Development of Smart Healthcare Scheduling Monitoring System for Elderly Health Care." *International Journal of Internet, Broadcasting and Communication*, Vol.10 No.2 pp.51-59, June 2019.
- [10] Baby Sleep Research Institute, DOI : [http://www.sleepnsleep.co.kr/store/store\\_info07.asp](http://www.sleepnsleep.co.kr/store/store_info07.asp)