

Symbolic and Material Valuation of Jamu: Economic Sociology of Indonesian Jamu Market

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Abstract

This paper analyzes the important role of jamu in the complementary medical market of Indonesia by exploring the four types of market valuation as proposed in the social order of market by Jens Beckert (Beckert, 2009). Different from studies conducted by Srivastava et al. (2021), Kumar et al. (2021), Neto et al. (2020), and Poonthananiwatkul et al. (2015) that mostly discuss physical and material value, specifically on the product standardization and pharmacological characteristics of traditional medicine at the respective Asian countries, this study focuses on both material and symbolic qualities of jamu in Indonesia. By presenting market valuation as a composite of standardization, cognitive anchoring, normative legitimation, and social positioning, this study reveals that Jamu is more recognized by its symbolic value than its material or physical value. As a methodological novelty, this study illustrates how to visualize the pattern and structure of connectivity between words as a value formation process in jamu market by employing TNA and corpus-based SNA using Gephi and WORDij software. This study also illustrates a theoretical operationalization of how the issue of product valuation in the market as social order is justified by empirical evidence.

Keywords: Jamu, Market valuation, Physical value, Symbolic value, SNA, TNA.

Introduction

Jamu is known as a traditional herbal medicine of Indonesia, processed from plant parts such as leaves, rhizomes, roots, and bark (Limyati, 1998; Ratnawati, 2020; Riswan, 2003; Stevensen, 1999). Jamu has been used for hundreds of years from generation to generation, as it is believed to be able to maintain health and treat disease (Beers, 2001; Elfahmi et al., 2014; Torri, 2012). The term of jamu in this research refers to a broader term of traditional medicine. Various literatures on jamu and traditional medicine could be classified into research on medical efficacy, socio-economic and business opportunity, and research on socio-cultural aspect.

Studies on traditional medicine in medical efficacy tend to emphasize the physical/material quality, particularly related to health benefits. These include Srivastava et al. (2021) regarding the standardization of aromatic ginger rhizome in traditional medicine in India, Kumar et al. (2021) about the standardization and quality assurance of sambiloto extract in Asian countries, Poonthananiwatkul et al. (2015) about Yod-ya-mareng (a term for a traditional Thai herb) as an anti-cancer drug, as well as Li et al. (2021) regarding the benefits of temulawak in Traditional Chinese Medicine.

Meanwhile, research on socio-economic and business opportunity of traditional medicine has relatively flourished in various countries. Sabatier et al. (2017) employ a social business model in Burkina Faso, while Tripathi et al. (2020) establish the regulatory procedures and requirements to the ASEAN market and Chen (2022) discusses the application of health technology assessment. Nevertheless, research on product valuation from the perspective of economic sociology is notably limited, if not non-existent. Thus, it is imperative to develop research on the traditional medicine business, particularly from the socio-economic aspect, using market valuation measurement.

Although the business of jamu in Indonesia is believed to provide a multiplier effect from upstream to downstream, the efficacy of jamu as traditional medicine in health service to cure disease remains a matter of debate. On the one hand, jamu is considered unaligned with conventional medicine since most of jamu concoctions are not scientifically formulated and produced yet (Beers, 2001; Purwaningsih, 2013). On the other hand, jamu in the domestic market in 2020 had a sale value of 20 trillion rupiahs and an export value of 16 trillion rupiahs (Ministry of Industry, 2020).

The valuation issue of jamu is not necessarily due to the debate between groups supporting and opposing the use of jamu in health service. The opposing group highlights the lack of scientific evidence of jamu, a fact that is expected to hinder market demand from showing a substantial increase. Nevertheless, a significant raise in market demand for jamu is recorded, particularly during the pandemic. It indicates that jamu is valued not only based on its physical/material benefits or quality, but also its symbolic value that creates a demand in the market. According to Beckert (2011), physical value refers to the function or benefits while symbolic value represents symbolic aspects such as social and cultural values. Both are attached to objects and complementing each other.

In contrast to the aforementioned studies, this study analyzes jamu as a commodity in the market arena, specifically related to the mechanism of commodity valuation based on both physical/material value and symbolic value using the criteria of market valuation proposed by Beckert (2009), namely: standardization, cognitive anchoring, normative legitimation, and social positioning. Research on physical value and symbolic value is essential as it provides novelty to be a scientific consideration in the development of the entire business value chain of jamu to the global market, including product development, marketing strategies, and others. The next section discusses the literature review, the concept or theoretical framework as well as the method applied, followed by the results of the analysis and the conclusion.

Literature Review

As mentioned in previous section, research on socio-economic and business opportunity emphasized the issues of effectiveness and safety, as well as economic, social, and cultural implications. A study by Torri (2012a) on herbal medicine discovers the relationship between women-based businesses of jamu as a source of livelihood and gender empowerment, revealing the economic value of jamu cosmetics and the opportunity for establishing women small businesses (Torri, MC, 2012b). Furthermore, Rademakers (1988) analyzes the organizational model of jamu industry in Indonesia in relation to the characteristics of Chinese family businesses, finding the economic potential of jamu promoted through social, community, and organizational empowerment. Different from the previous studies, this research employs the market valuation mechanism proposed by Beckert (2009) based on both physical/material value and symbolic value.

The Valuation Issue of Physical/Material Value and Symbolic Value

In sociology, valuation is the next process after setting price for goods or services on specific commodities with certain characteristics. Thus, valuation needs to consider the role of market actors such as producers, consumers, and institutions (Aspers, 2005; Beckert, 2009; Callon et al., 2002). Observed from the economic concept, valuation is pivotal since, by providing value to goods and services, the actors acknowledge the effect of these goods and services (Markandya and Nunes, 2011). Valuation takes place when determining prices for goods and services, providing information for market actors to make decisions, including in creating better natural resource management (Bellver and Gitart, 2015 in Romero et al., 2020).

Beckert (2011) states that a commodity is not only valued based on its physical/material value, but also its inherent symbolic value. Physical value refers to the function or benefits attached to the object, while symbolic value refers to the attached symbolic aspects of the object, such as social and cultural values. Both complement each other and then become the basis for valuation. Fundamentally, symbolic and cultural values collectively determine the increase or decrease of community capitals in value. Furthermore, actors with access to more capitals are more likely able to shape the valued objects (Hale and Coroland, 2018). Symbolic value also reflects the application of an aesthetic method to explore the role of aesthetic values in empowering visual cultural values within certain community (Karmila et al., 2016).

Beckert also criticizes the "Market for Lemons" model by Akerlof (1970) that defines the quality of goods from only their physical value. It is related to asymmetric information in the market, rendering potential buyers unable to know the exact quality of the goods.

Measurement Criteria for Market Valuation

To unravel the valuation issue, this study adapts the criteria of market valuation initiated by Beckert (2009), namely standardization, cognitive anchoring, normative legitimation, and social positioning. Standardization refers to valuation of a product based on physical/material value while cognitive anchoring, normative legitimacy, and social positioning are related to symbolic value attached to the product.

Observed from an economic concept, the value of a commodity in terms of standardization is generally measured based on the physical/material quality. The elaboration of the market and the use of digital technology, among others, supports the measurement of physical/material value of a commodity. Dobbenson (2016) analyzes digital tracking technology called scopic media, used by fishermen to monitor fishing activities as well as to learn about real-time auction market demand. Furthermore, He et al. (2015) explore the value formation and selling price of soccer players, affected by information parameters in the statistical data on the soccer website. Both the scopic media and the database on the soccer website are calculative devices to measure value and form prices. Calculative devices play a role in helping market actors unravel valuation issues of commodities due to uncertainty.

In addition to the use of technology, a quality index can also be applied in valuation based on physical/material value. For example, fishing techniques are used as an indicator of price formation of cod in the auction market because these techniques will affect the quality of the catch (Sogn-Grundvag et al., 2021). It indicates that product quality is an important value in price formation (Asche et al., 2015).

Symbolic aspects are constructed socio-culturally, historically, politically, and intersubjectively by the actors involved in the market arena, namely consumers, producers, and institutions. Cognitive anchoring is a reflective process that underlies the decisions and behavior of an individual in choosing a product, in which the initial valuation may be different from the final decision due to bias (Tversky & Kahneman, 1974). A study on cognitive anchoring by Bonaretti et al. (2016) investigates the impact of color cues in customer reviews and ratings on TripAdvisor and Yelp travel apps. Moreover, Kuijken et al (2017) analyzes consumer willingness to purchase by providing categorization in which certain products have a higher value than others.

Cognitive anchoring introduced by Beckert is derived from Tversky and Kahneman (1974), referring to cognitive anchoring bias and heuristic influence of individual decisions. Tversky and Kahneman (1974) define heuristics to make judgments under uncertainty, one of which is cognitive bias as an individual act of creating rationality to judge based on the perceptions they acquire. Heuristics are simple rules used by humans to form judgments about things, including social and economic behavior. Travesky (1996) also adds that cognitive bias has efficient implications on assessment in the fields of entrepreneurship, finance, and management because external factors influence the decision making of consumers in choosing products. These factors include symbols,

product categories, online review system (ORS), color, discount, and product placement (Bonaretti, et al., 2017; Brunner et al., 2016; Kuijken, et al., 2017; Li & Pu, 2020).

Meanwhile, normative legitimization is related to the social belief system agreed upon by market actors. Normative legitimization will form the valuation of product suitability to reduce uncertainty. It is similar to the normative concept of isomorphism, namely the collective agreement of professionals in defining the conditions and methods of their work as control over production to build a cognitive base and legitimacy in an organization (DiMaggio & Powell, 1983).

Beckert (2013) performs the valuation of symbolic value based on normative legitimization on works of art with intrinsic characters. It is difficult to value works of art in art market based on physical/material value. Therefore, the relevant actors in art market, such as curators, art gallery owners, museums, journalists, art collectors, and credible practitioners, are required to be intersubjective. The intersubjectivity of these actors does not only aim to build an artistic reputation, but also to be legitimacy in the value and price formation of works of art.

Finally, social positioning is related to the value of goods from social recognition that provides "status" to their owners (Aspers, 2008). The farther the goods are from their functional needs, the more dependent they are on the formation of symbolic value by actors (Beckert, 2009). Beckert (2017) measures symbolic value based on social positioning on wine. Beckert explains that wine valuation is not merely based on physical/material quality, but also symbolic value, such as the social status of the owner and the location of the winery, affecting the status of the buyer in the social hierarchy. A similar study is conducted on coffee by Fischer (2017), analyzing how the Third Wave Coffee period causes coffee to be valued not merely by quality and taste, but also the story behind its origin, particularly the socio-cultural aspects, providing the consumers with an exclusive experience of drinking coffee.

The four criteria of market valuation then become reference for jamu valuation that has a dynamic of attraction between physical/material value and symbolic value contained therein. The well acceptance of a product depends on how the market arena interprets physical/material value as well as symbolic value of the product (Fischer, 2017).

When uncertainty causes a valuation issue, the market acts as a collective tool to enable compromises, not only in the production and distribution of goods but also in the value formation (Callon, 2005). Valuation is possible supposing the goods can be calculated by an institutionalized collective agency such as a market.

Symbolic value can add value to a product since it provides a narrative about the origin of the product, allowing the consumers to feel they are participating in the journey of the product from upstream to downstream (until product consumption) (Fischer, 2017). Therefore, the aspect of symbolic value that plays the greatest role in a product valuation depends on the most dominant social group relationship (Beckert, 2017).

An analysis of the dynamics between physical/material value and symbolic value of a commodity becomes important, particularly for commodities such as jamu. Based on its physical/material value, jamu is traditional herbal medicine that still requires the

aspects of standardization to guarantee its quality. On the other hand, jamu is closely related to the inherent socio-cultural values as cultural heritage of the people of Indonesia. It causes a valuation issue for jamu in the domestic medical market.

Methodology

Research Methodology

This study applied a digital research method at data collection stage as well as Textual Network Analysis (TNA) and corpus-based Social Networks Analysis (SNA) methods with a qualitative approach at the analysis stage. We defined digital in reference to Dowson (2020) as an umbrella term describing the research techniques employed to collect and analyse online data, mobile location, and the sensor-based category.

Data Collection

The data collection stage started with determining the keywords based on the operationalization of the four criteria of market valuation by Beckert as described in the literature review. The keywords used in web scraping with N-Capture software are shown in Table 1.

Table 1: Keywords for Web Scraping of Online Media Articles

Criteria	Keywords
Standardization	<i>"Jamu Terstandar"</i> (Standardized Jamu); <i>"Standardisasi Jamu"</i> (Standardization of Jamu).
Cognitive Anchoring	<i>"Manfaat Jamu"</i> (The Benefits of Jamu); <i>"Alasan Minum Jamu"</i> (The Reasons for Drinking Jamu); <i>"Khasiat Jamu"</i> (The Efficacy of Jamu); <i>"Memilih Jamu"</i> (Choosing Jamu); <i>"Pengalaman Minum Jamu"</i> (The Experience of Drinking Jamu).
Normative Legitimation	<i>"Upaya Melestarikan Jamu"</i> (Efforts to Preserve Jamu); <i>"Mendorong Pemanfaatan Jamu"</i> (Encouraging the Utilization of Jamu); <i>"Saran Dokter"</i> (Doctor's Advice).
Social Positioning	<i>"Popularitas Jamu"</i> (The Popularity of Jamu); <i>"Jamu Warisan Budaya"</i> (Jamu as Cultural Heritage); <i>"Jamu Warisan Leluhur"</i> (Jamu as Ancestral Heritage); <i>"Jamu Modern"</i> (Modern Jamu); <i>"Jamu Kuno"</i> (Ancient Jamu); <i>"Budaya Minum Jamu"</i> (Culture of Drinking Jamu).

The digital data as primary data collected by the keywords include texts from online media articles and YouTube videos uploaded in the period of January 2019 to September 2021. Meanwhile, TNA involves additional data as primary data, specifically on the criteria of standardization of relevant policies and regulations related to traditional medicine. According to Larrán et al. (2015), TNA data are obtained from organizational narratives in the form of policies and regulations. Thus, the data collected were the Regulation of the Ministry of Health (Permenkes) No 003 of 2010 and the regulation of National Agency of Drug and Food Control (BPOM) No 32 of

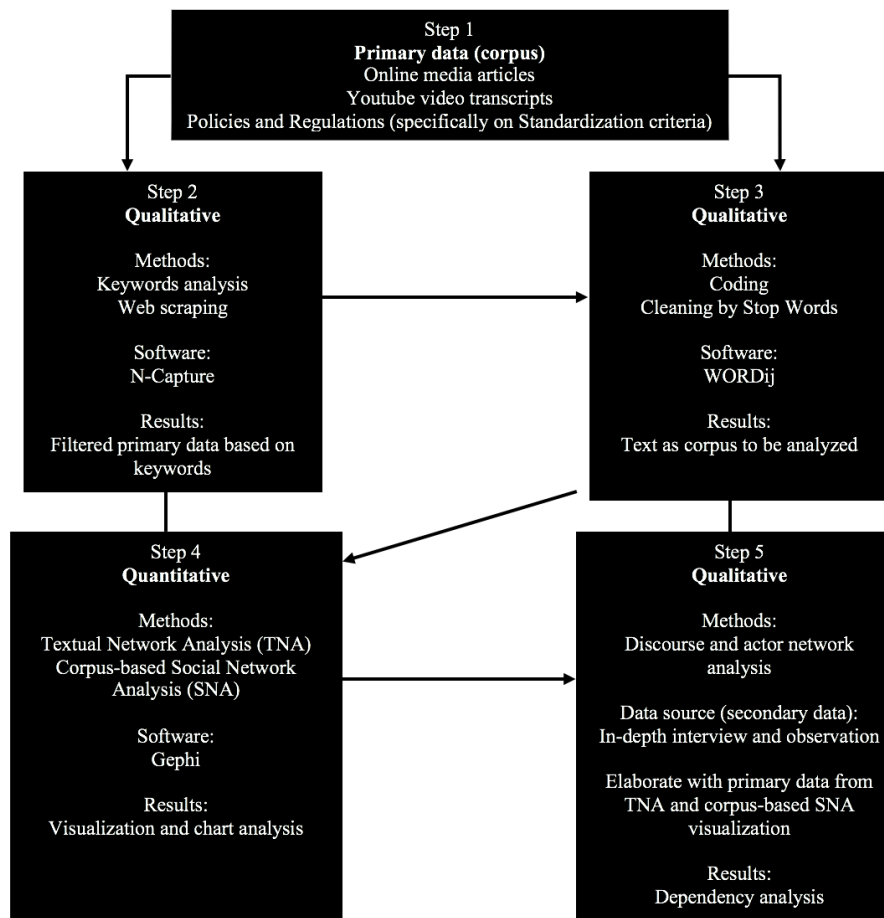
2019. Furthermore, we carried out in-depth interviews to support our primary data, the analysis of which is presented in the discussion section.

The web scraping resulted in 228 articles that match the keywords of the four criteria of market valuation. In-depth interviews were conducted with seven key informants representing individuals and organizations related to jamu and traditional medicine. They were the Head of Center for Research and Development of Medicinal Plants and Traditional Medicine of the Ministry of Health (B2P2TOOT), the Director of Downstream Chemical and Pharmaceutical Industry of the Ministry of Industry, the Head of GP Jamu, the founder of Jamudigital.com as a key opinion leader of jamu in Indonesia, a trained doctor at Jamu Scientification Clinic, an owner of micro, small and medium enterprises (MSME) of jamu healthy drink, and a jamu consumer. The informants were selected based on the following criteria: profession, capacity, and influence in value formation of jamu according to the criteria of market valuation.

Data Analysis

The TNA and corpus-based SNA were performed using Gephi software to explore the physical/material value and symbolic value of Jamu based on the criteria of market valuation initiated by Beckert (2009), namely standardization, cognitive anchoring, normative legitimation, and social positioning. TNA is a method that combines content analysis and network analysis (Segev, 2020), while SNA displays the position of actors in a structure through network visualization (Borgatti et al., 2014). Corpus-based SNA can visualize structural patterns or map influential actors based on eigenvector centrality, which measures the number of relations in a node and considers the value of relational importance and indirect relations between actors to discover the most influential actor in a network (Danowski, 2020). TNA and corpus-based SNA visualization forms nodes, visual representations of entities (objects, items, actors, or words), and edges that represents relations or relations between nodes (Danowski and Riopelle, 2020; Segev, 2020). The steps in the method section are presented in Figure 1. The results of the visualization of TNA and corpus-based SNA using Gephi were then elaborated with the results of in-depth interviews with seven key informants as analysis material in the discussion section.

TNA and corpus-based SNA were integrated to visualize the market valuation of a complex commodity such as Jamu. These methods also allow the authors to map, analyze, and present the narrative patterns and network structures of actors in jamu market field (Hidayat, 2020).

Figure 1: Methodology Operationalization

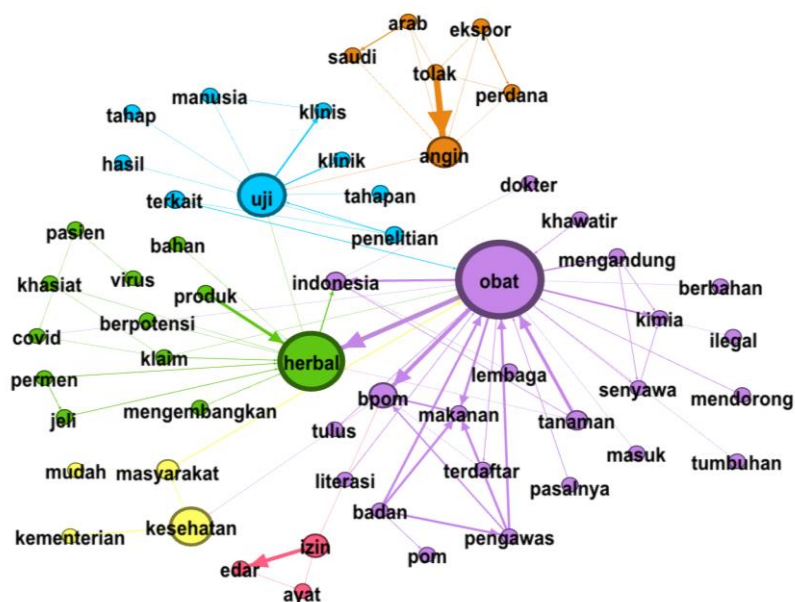
Results

The following is the visualization of TNA and corpus-based SNA using WORDij and Gephi software based on the four criteria of market valuation, namely standardization, cognitive anchoring, normative legitimation, and social positioning. The visualization is based on the primary data collection described in the previous section.

1. Standardization

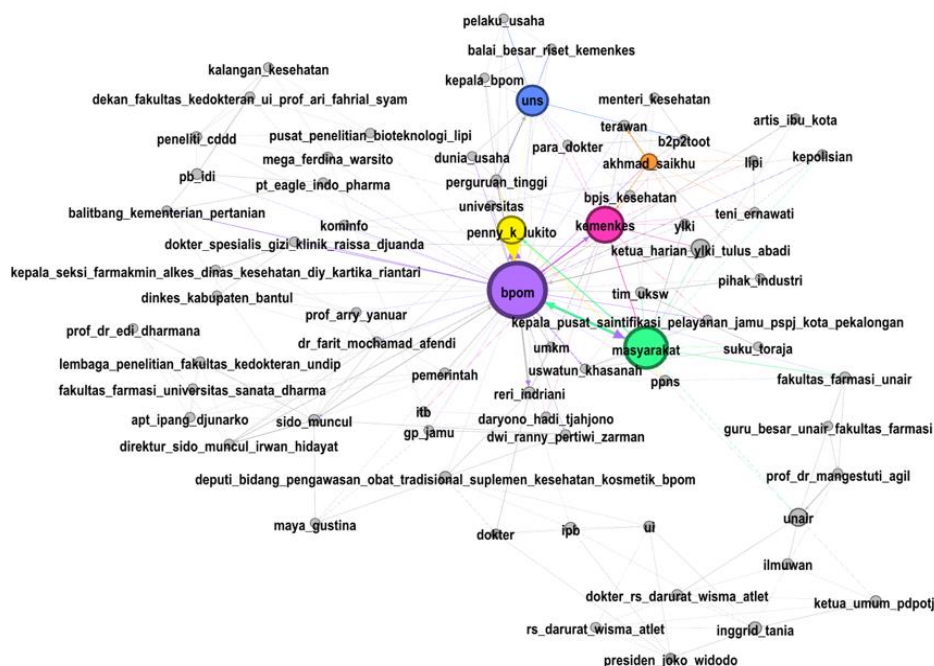
The TNA visualization of jamu in terms of standardization displays 57 nodes and 85 edges, with six network groups or clusters of narratives. The clusters are identified as: purple (40.35%) for the utilization of jamu as traditional medicine, green (21.05%) for various research results of the efficacy of jamu and their benefits for COVID-19 patients, blue (15.79%) for the standardization requirements for jamu, orange (10.53%) for exported herbal product brands, yellow (7.02%) for the actors involved in the utilization of jamu, and red (5.26%) for the provision of distribution license. The visualization is presented in Figure 4.1.

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Meanwhile, the corpus-based SNA visualization in terms of standardization shows 71 nodes and 267 edges. Referring to the value of eigenvector centrality, eight largest corpora of actors are involved in the network related to the narratives of standardization of jamu, namely BPOM (purple), the community (green), the Ministry of Health (pink), Sebelas Maret University (UNS), Penny K Lukito (yellow), Akhmad Syaichu (orange), and Tulus Abadi as the Chairperson of the Indonesian Consumers Foundation (YLKI) (grey).

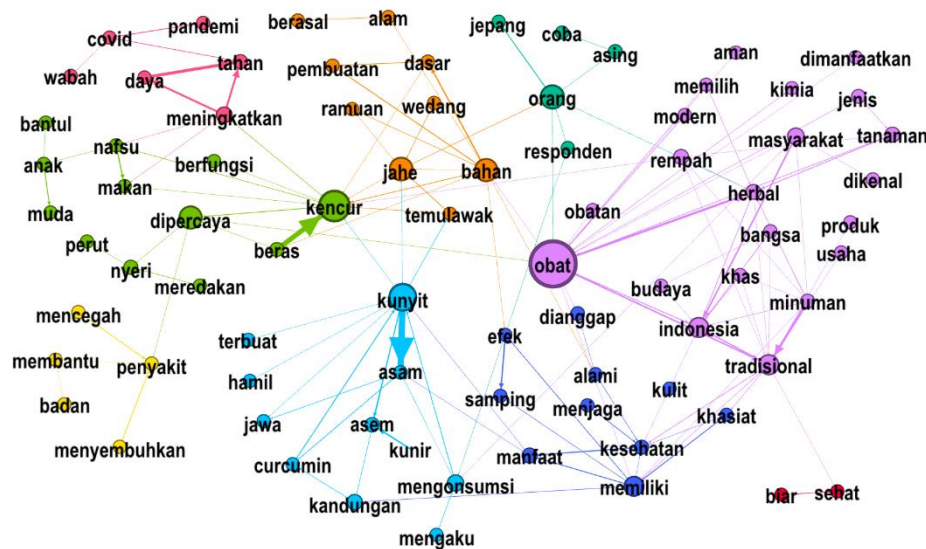
Figure 3: The corpus-based SNA Visualization of Jamu in Terms of Standardization



2. Cognitive Anchoring

The TNA visualization of jamu concerning cognitive anchoring shows 81 nodes and 137 edges, with nine network groups or clusters of narratives. These clusters are classified as: purple (25.93%) representing the variety of information on the understanding of the identity of jamu as traditional medicine from cultural heritage; light green (14.81%), light blue (13.58%), and orange (11.11%) for the category of jamu commonly consumed by the community; dark blue (12.35%), yellow (6.17%), and red (2.47%) signifying the reasons for consuming jamu; pink (7.41%) for the efficacy of jamu during the COVID-19 pandemic; and dark green (6.17%) for reviews of jamu by foreigners.

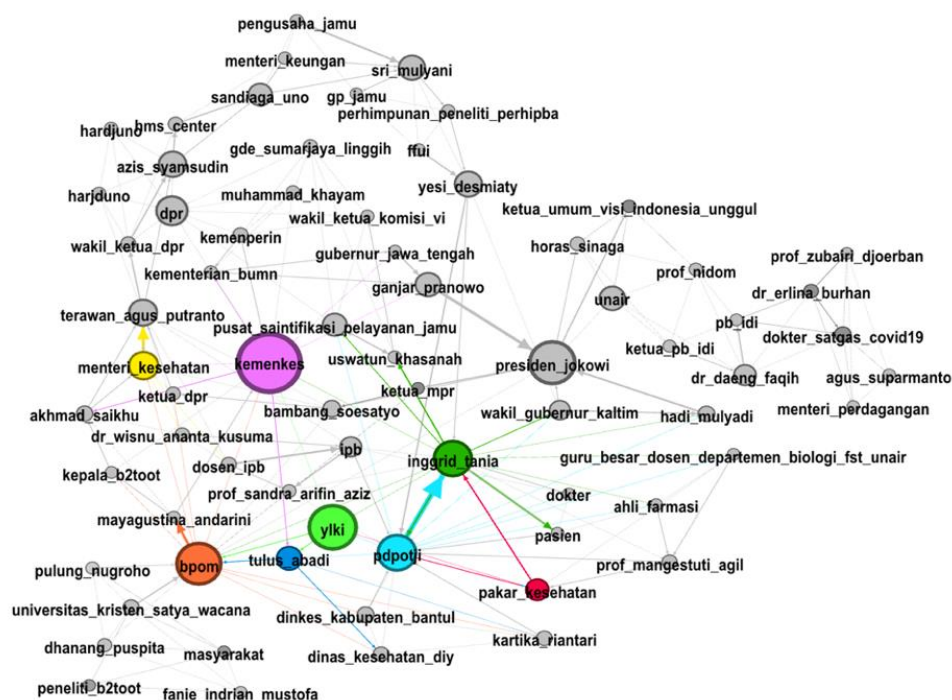
Figure 4: The TNA Visualization of Jamu in Terms of Cognitive Anchoring



Furthermore, the corpus-based SNA visualization in relation to cognitive anchoring is comprised of 63 nodes and 233 edges. Observing the value of eigenvector, eight largest corpora of actors involved in the network related to the narratives of cognitive anchoring of jamu are obtained, namely the community (purple), Millennials (green), DANA - a digital wallet application (light blue), Mustika Ratu – a herbal medicine and cosmetic brand (yellow), jamu sellers (orange), Jejamu - a jamu cafe (pink), Roos Nurningsih – a well-known jamu producer (red), and the consumers (dark blue).

Meanwhile, the visualization of corpus-based SNA in terms of normative legitimation shows 71 nodes and 236 edges. Referring to the value of eigenvector centrality, there are eight largest corpora of actors involved in the network related to the narratives of normative legitimation of jamu, namely the Ministry of Health (purple), YLKI (light green), BPOM (orange), the Association of Indonesian Traditional Medicine and Herbal Medicine Doctors (PDPOTJI) (light blue), Inggred Tania as the Head of PDPOTJI (dark green), the Minister of Health (yellow), Tulus Abadi as the Chairperson of YLKI (dark blue), and health experts (red).

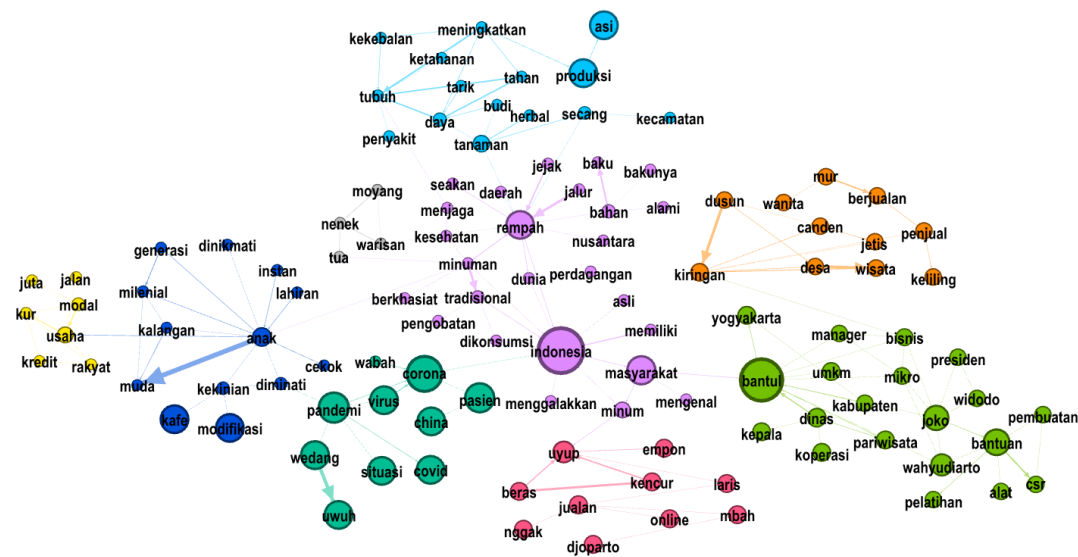
Figure 7: The Corpus-based SNA Visualization of Jamu in Terms of Normative Legitimation



4. Social Positioning

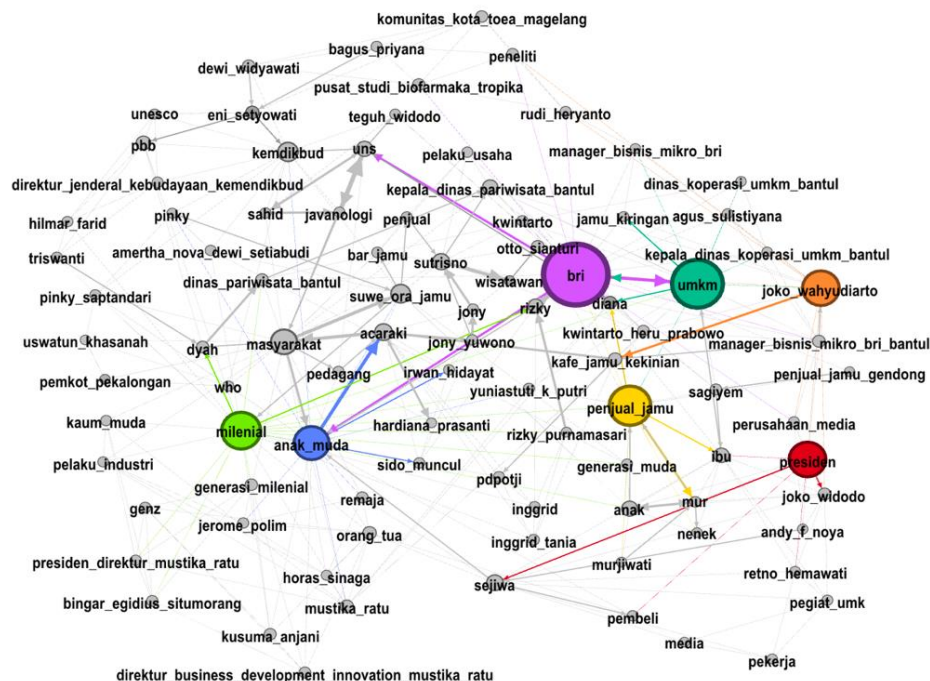
The visualization of TNA of jamu regarding social positioning results in 442 nodes and 206 edges, with nine network groups or clusters of narratives. These clusters consist of purple (5.88%) for jamu as an original product of Indonesia, light green (4.52%) for Bantul District that is known to have numerous small and medium scale jamu entrepreneurs, light blue (3.39%) for the health benefits of jamu, dark blue (2.94%) representing the enthusiasm of millennials for jamu through the establishment of contemporary jamu cafes, orange (2.49%) representing a jamu tourism village in Dusun Kiringan, Bantul, pink (2.26%) and dark green (2.26%) showing the variety of jamu as healthy drink popularly consumed, yellow (1.58%) for capital assistance, and gray (1.36%) for jamu as an ancestral heritage.

Figure 8: The TNA Visualization of Jamu in Terms of Social Positioning



Furthermore, the visualization of corpus-based SNA in terms of social positioning reveals 94 nodes and 378 edges. Referring to the value of eigenvector, seven largest corpora of actors are involved in the network related to the narratives of social positioning of jamu, namely People's Bank of Indonesia - BRI (purple), MSMEs (dark green), jamu sellers (yellow), young people (blue), Joko Wahyudiarto as the Micro Business Manager of BRI in Bantul (orange), the President of Indonesia (red), and Millennials (light green).

Figure 9: The TNA Visualization of Jamu in Terms of Social Positioning



Discussion

This section discusses the results of the TNA and corpus-based SNA visualization on the four criteria of market valuation disclosed in the previous section. The results of in-depth interviews with the informants were used as secondary data to complement the previously obtained findings as well as to strengthen the analysis of the TNA and corpus-based SNA visualization.

1. Standardization

Observed from the TNA visualization based on standardization, the narratives in each cluster are dominated by standardized rules for jamu to be utilized as traditional medicine. The narrative in the largest cluster (purple) indicates the necessity for jamu to obtain a distribution license from BPOM as an institution that standardizes drug and food prior to being utilized as traditional medicine in health service. Standardization is carried out to ensure the safety and quality of traditional medicine.

The purple cluster is supported by the blue cluster that presents a narrative about the necessary test stages. To be utilized as traditional medicine in health service, jamu needs to meet the requirements of animal pre-clinical trials and human clinical trials. Therefore, it is necessary to conduct further studies to ensure the quality, product safety, and efficacy of jamu, which is believed by the public to be an original traditional medicine of Indonesia for treating disease.

The popularity of jamu increases during the COVID-19 pandemic. The green cluster displays a narrative about the efficacy and benefits of jamu in preventing the transmission of the COVID-19. It aims to facilitate people in consuming jamu, strengthened by the yellow cluster that predicts the potential for open bigger business opportunities from the standardization of jamu. The narrative in the orange cluster shows the success of Tolak Angin, one of the Indonesian jamu brands standardized by BPOM, in exporting to Saudi Arabia.

Meanwhile, the corpus-based SNA of the narratives of standardization reveals Penny K Lukito, the Head of BPOM, as the most influential actor. BPOM has the authority to regulate the circulation of drugs and food in Indonesia, including jamu. BPOM is tasked with conducting preclinical and clinical trials of jamu from upstream to downstream until jamu is suitable for distribution in the market.

An interrelationship between the Ministry of Health and Akhmad Syaichu as the Head of B2P2TOOT is revealed in the narratives. B2P2TOOT of Tawangmangu and the Ministry of Health establish a jamu scientification program that provides evidence-based jamu in health service, in which jamu whose efficacy has been scientifically studied can be prescribed to patients by trained doctors at Jamu Scientification Clinic, Tawangmangu.

The next actor is the community, playing a role as a producer and a consumer. The community has the right to obtain a guarantee of the safety and the quality of the drugs they consume, including jamu. Tulus Abadi, as the Chairman of YLKI and another actor involved in the network structure of actors regarding the standardization of jamu, thus conveys that YLKI focuses on providing guarantee and information to the public regarding the quality of jamu and its safety for consumption.

TNA and corpus-based SNA of standardization shows that the physical/material value of jamu is essential not only in relation to product safety but also as an opportunity to open a wider market through exports. However, the physical/material value of jamu in its utilization as traditional medicine in health service still requires a scientific basis based on the safety standards of traditional medicine set by BPOM.

2. Cognitive Anchoring

The narrative in each cluster shows that the decision of an individual to choose jamu is influenced by their understanding of the benefits of jamu as traditional medicine in reference to personal experience and information from the mass media and other groups. The purple cluster shows that jamu is a traditional medicine of cultural heritage of Indonesia. It is supported by the light green, light blue, and orange clusters specifying the variety of jamu such as *kunyit asem* and *beras kencur* that have long been believed to be beneficial for health and easy to produce as healthy drinks.

The raw materials for jamu are easy to obtain, allowing people to mix the materials themselves. It indicates that the consumers choose jamu because of their personal understanding and experience that is passed from generation to generation, forming a good perception of jamu. This perception is similar to the reason for consuming jamu conveyed in the narratives in the dark blue, yellow, and red clusters, namely the understanding and belief that jamu is safe for consumption with minimal risk of adverse effects since it originates from plants. This perception is also closely related to the pink cluster that indicates the efficacy of jamu to prevent transmission of the COVID-19. Numerous people believe that jamu can ward off COVID-19 despite its lack of scientific evidence (Founder Jamudigital; Owner of jamu MSME; Jamu consumer).

The narrative in the dark green cluster shows a group of Japanese students drinking jamu. It is related to a video uploaded to YouTube by Jerome Polin, a Youtuber from Indonesia who currently studies in Japan. In this video, he invited his Japanese friends to try drinking jamu. This video received close attention and was widely reviewed in online media articles. Jerome Polin created this content not only for entertainment, but also to introduce jamu as an original healthy drink of Indonesia that is believed to be able to increase immunity. As a content creator, Jerome has a great influence in shaping the understanding and perception of his followers concerning jamu, providing the potential to influence jamu valuation.

Meanwhile, corpus-based SNA reveals the community as the largest actor, having a dual role as a producer and a consumer. Consuming jamu is a social behavior that is transformed into meaning by various factors including the knowledge obtained from information, personal experience, and others. This reflective process then underlies the decision of the community to choose jamu (Founder of Jamudigital).

Millennials as actors emerging and involved in the jamu market network play a role in shaping jamu valuation since they are familiar with digital technology and exposed to a great amount of information. Millennials no longer view jamu as an outdated product, but rather as part of their lifestyle (The Head of GP Jamu; Founder of Jamudigital; Director of Ministry of Industry; The Head of B2P2TOOT Ministry of Health). Therefore, their knowledge and experience can influence social behavior in consuming jamu.

On the other hand, the emergence of the actors “DANA”, “Mustika Ratu”, and “Jejamu” is also interrelated. Jejamu is a jamu business owned by Mustika Ratu that carries a concept of a café and recently becomes popular among young people. Mustika Ratu collaborates with DANA, a digital wallet application, to facilitate Jejamu consumers in conducting non-cash transactions as well as obtaining discount facilities. This collaboration strengthens the aforementioned notion of millennials and their familiarity with technology. In addition, it implies the efforts of producers to change the perspective of people regarding jamu from an outdated product into a modern and up-to-date product in alignment with the recent development of technology and lifestyle. The use of technology and the demographic momentum of millennials eventually form a reflective process for the community related to their perspective on jamu.

Other interrelated actors involved in the actor network are “jamu sellers”, “Roos Nurningsih”, and “consumers”. Roos Nurningsih is a jamu seller from Malang who plays an important role in preserving jamu. In addition to selling jamu and supplying jamu to larger jamu companies, she also provides training and knowledge about jamu to the community, particularly millennials. In the jamu market, Roos Nurningsih is a producer, yet her activities in supporting the preservation of jamu play a role in shaping the perspective of people regarding jamu. The experience she shares is a source of information to form a jamu valuation. Her activities are also widely cited by the mass media due to her achievements and consistency in developing jamu to attract cross-generational interest.

TNA and corpus-based SNA of cognitive anchoring illustrates that knowledge and decisions to consume jamu are influenced by practical considerations, either the influence of individual/group reviews, personal experiences, or continuous and recurring information that eventually forms a certain understanding. Cognitive anchoring supports value formation of jamu, as evidenced by the narratives and emerging actors that signify how certain understanding, historical aspects, personal experiences, and lifestyle encourage people to consume jamu.

3. Normative Legitimation

Public trust in jamu is influenced by a narrative about the health benefits of jamu for maintaining immunity and treating various diseases. This trust is established by the history of jamu in curing diseases since hundreds of years ago, the narratives of which are passed down from generation to generation. However, the efficacy of jamu back then was based on subjective individual judgement or even community experience instead of scientific evidence.

The more individuals or groups who directly experience and share the benefits of jamu with other individuals, the stronger the position of jamu. It is certainly more beneficial for jamu to be supported by statements from legitimate actors such as doctors, vice governors, and even the president. People tend to believe the statements of these actors particularly because they have strong social positions. For instance, doctors are deemed professionals in health sector, thus people regard highly their statements regarding health. It also confirms the ongoing conflict and uncertainty regarding the efficacy of jamu that is not scientifically proven yet.

Another actor supporting jamu consumption is PDPOTJI, a medical professional organization that focuses on the development of jamu. Dr. Ingggrid Tania as the chairman of PDPOTJI frequently provides enlightenment regarding the utilization of jamu in the health sector as promotive and preventive efforts. However, she claims that doctor consultation remains necessary for the curative effort. The vice governor and the president are other actors supporting jamu consumption. They are deemed more reliable in sharing information and experiences related to jamu because of their social position as the state leaders.

The narrative in the orange cluster discusses the efficacy of jamu to ward off the COVID-19, a claim that is believed by a great number of people, despite the lack of scientific evidence. It leads to a spike in price and scarcity of jamu raw materials such as ginger, turmeric, temulawak, lemongrass, and others (The Head of GP Jamu; Founder Jamudigital). The narrative in the pink cluster further confirms that jamu ingredients are popularly sought after by the public during the COVID-19 emergency.

People purchased these ingredients in excessive quantities to be processed into healthy drinks, resulting in the decrease in sales in the jamu industry, both large-scale industry and MSMEs, as they experienced the difficulty in obtaining raw materials for jamu production (The Head of GP Jamu; Director of Ministry of Industry). Fortunately, it did not last long and was followed by an increase in the demand for jamu (The Head of GP Jamu). Up to this day, jamu remains a commodity with a high economic value and potential to survive amid the COVID-19 pandemic (The Head of GP Jamu; Owner of MSME Jamu; Jamu consumer).

Normative legitimation, according to Beckert (2009), is related to a social belief system. Corpus-based SNA in the case of jamu reveals that the actors are dominated by regulators and policy makers, namely the Ministry of Health and BPOM. The indications that jamu is related to safety and health lead to the need of the public for reliable information before consuming jamu. The source of this reliable information is mostly obtained from the regulator side (Trained doctor; The Head of B2P2TOOT, Ministry of Health; The Head of GP Jamu; Director of Ministry of Industry; Jamu consumer).

However, it cannot be denied that the high number of people consuming jamu is influenced by the previously explained cognitive aspects in the market valuation mechanism of cognitive anchoring. In addition, the lack of a strong role of other market actors outside the regulators (such as researchers, influencers, jamu manufacturers) who can form the social belief system of the community also explains why the regulators are the dominant actors in the actor network of normative legitimation.

During the data collection period, Terawan Agus Putranto as the Minister of Health is an actor widely quoted by the online media in the narrative structure of jamu. He frequently and consistently provided statements about jamu and its benefits for the immune system to avoid COVID-19 in the early days of the pandemic (Founder of Jamudigital). Another interrelated actor is YLKI, a non-governmental organization that seeks to provide education and awareness about the rights and responsibilities of consumers to be able to protect themselves and their environment. Tulus Abadi as the Chairman of YLKI also appears in the narratives in this criterion. YLKI plays an important role in the formulation of a social belief system and jamu valuation from the

consumer side since jamu consumers as the representative of the community need to obtain reliable information.

4. Social Positioning

Social positioning is related to the socio-cultural context, including how the product can provide a label or status for both producers and consumers. TNA of the largest cluster (purple) generates a narrative about jamu as an original product of Indonesia with health benefits that is frequently used in traditional medicine. The position of the purple cluster is adjacent to the gray cluster that presents a narrative about jamu as an ancestral heritage. It shows a historical context attached to jamu, leading people to believe in the efficacy of jamu that has been practiced for generations and appreciate ancestral heritage preservation.

The second largest cluster (light green) provides a narrative about Bantul, a district famous for a great number of jamu entrepreneurs of the MSME scale. They are provided with facilities such as funding, training, and equipment assistance by the local government in collaboration with banks (Director at Ministry of Industry; The Head of GP Jamu). The problem faced by jamu SMEs is access to capital (The Head of GP Jamu). It is closely related to the narrative in the yellow cluster, namely capital assistance by banks and local governments to support jamu SMEs through People's Business Credits (KUR).

The narratives in the light green and yellow clusters are similar to that of the orange cluster, namely the jamu tourism village in Dusun Kiringan, Bantul. Dusun Kiringan is known as a village that produces jamu. Gradually, information about traditional jamu from Dusun Kiringan has been widely disseminated, thus increasing the demand for jamu. Due to its high economic potential, Dusun Kirangan was inaugurated as a Jamu Gendong Tourism Village in 2016 (Founder of Jamudigital).

Visitors to the jamu tourism village can experience firsthand the process of making traditional jamu, starting from choosing raw materials and mixing them until jamu is ready to drink (Founder of Jamudigital). This narrative shows that jamu as a commodity has a strategic role not only in the health sector but also in community empowerment in the economic and socio-cultural fields. Community empowerment in the economic field is possible through a group approach rather than an individual approach (GSDRC, 2014; Purnamawati and Utama, 2019).

Gradually, jamu is presented in various innovations to provide more appeal to the community. The dark blue cluster presents a narrative about the enthusiasm of the millennials to drink jamu in cafes. This narrative indicates a shift in the way jamu is marketed, from originally being sold by peddling (either carried on the back or by bicycle) to being served in cafes in a manner similar to serving coffee. Currently, a great number of jamu sellers utilize a café concept (The Head of GP Jamu). This phenomenon is an effort to change the image of jamu from what previously considered to be a bitter and old-fashioned drink into a classy drink supporting the current lifestyle without compromising its main properties (The Head of GP Jamu; Owner of MSME Jamu; Founder of Jamudigital; The Head of B2P2TOOT Ministry of Health; Jamu consumer)

Millennials are interested in making transactions as an expression of self-identity. Brands must be able to 'talk' to this generation to a level where they feel comfortable (Lorey, 2021). In addition to consuming something as a form of expression of identity and lifestyle, they also tend to choose to spend money on something that enriches their experience (Ordun, 2015; Moreno et al., 2017). Several producers have observed this tendency and started to change their marketing strategies by involving experiences and activities that the millennials can share through their social media platforms.

This trend indicates that product consumption is not only observed from the perspective of benefits. Jamu producers start to establish jamu cafes to fulfill lifestyle needs by elaborating traditional jamu into classy and good-tasting drinks. Such concept offers the millennials an opportunity to be part of a trend. They purchase jamu not only to meet physical needs but also to fulfill a lifestyle to show social status (The Head of GP Jamu; Founder of Jamudigital; Owner of MSME Jamu).

The light blue cluster displays a narrative about the benefits of jamu to maintain health, maintain immunity, and facilitate breast milk production, similar to the narrative in the dark green cluster about the benefits of jamu to ward off the COVID-19. These narratives are closely related to those of pink and dark green clusters, detailing the types of ingredients frequently consumed by the public, such as jamu *kunyit asem*, *beras kencur*, jamu *uyup*, *empon-empon*, and *wedang secang*.

Meanwhile, corpus-based SNA reveals interrelated actors consisting of “BRI”, “UMKM”, “jamu seller” and “Joko Wahyudiarto” (Manager of BRI Micro Business of Bantul). These actors are related to the narrative of community economic empowerment through jamu implemented by BRI for jamu SMEs. BRI has a funding program through KUR and Corporate Social Responsibility (CSR) provided to jamu business players in the Jamu Tourism Village, Dusun Kiringan, Bantul, Yogyakarta.

The emergence of these actors indicates that banking institutions attempt to capture the potential of jamu based on its symbolic value through the socio-cultural context converted into community economic empowerment. One of the narratives related to community economic empowerment is the jamu tourism village that offers the tourists to experience producing jamu and interacting with the women selling jamu gendong.

Banks also play a role in jamu valuation, suggesting that the relationships among actors related to economic empowerment are consistent. The narrative regarding community economic empowerment and corporate CSR is widely quoted by online mass media (The Head of GP Jamu).

Other emerging actors are “Young people”, “the President”, and “Millennials”. These three actors are related to the back-to-nature trend that has recently become the lifestyle of the urban community. Jamu became more popular in 2019 when President Joko Widodo, through his YouTube account, shared his daily activity of drinking jamu to maintain health (Founder of Jamudigital; Jamu consumer; Owner of MSME jamu; Trained doctor). The popularity of President Jokowi’s video uploaded as a Vlog in YouTube has stolen the attention of various groups, particularly young people and millennials (Founder of Jamudigital; Jamu consumer; Owner of MSME jamu)’. As the generation most exposed to digital information including social media, millennials easily catch the trend of drinking jamu, affecting the valuation of jamu by the public.

Conclusions

This paper analyses the important role of a herbal medicine of Indonesia, namely “jamu”, in the complementary medical market by exploring four types of market valuation as proposed by the social order of market (Beckert, 2009). In general, market valuation on the quality of jamu, based on the four criteria proposed by Beckert (2009), shows that jamu is recognized in terms of its symbolic value rather than its material or physical value. The efficacy of jamu, therefore, is not the only dominant criteria for jamu market valuation.

First, concerning standardization, this study reveals the standards to be met by jamu to ensure its quality and safety before its utilization as traditional medicine in health care facilities. Second, in relation to cognitive anchoring, knowledge and experience of using jamu that is considered a more natural product eventually provide a strong perception of the benefits of consuming jamu, despite its lack of scientific evidence. Third, observed from normative legitimation, it is obvious that the role of actors who significantly influence jamu market leads to a stronger social belief system of consuming jamu. Fourth, in terms of social positioning, it is revealed that jamu can provide ‘status’ to producers and consumers to fulfill a healthy lifestyle as a popular current lifestyle in the community. The socio-cultural context attached to jamu also has the potential for economic community empowerment.

This study illustrates the visualization of the pattern and structure of connectivity between words as a value formation process in jamu market by measuring both TNA and corpus-based SNA using Gephi and WORDij software. Moreover, corpus-based SNA reveals the actors involved and their significant roles in jamu market.

This study attempts to test the theory of Beckert (2009) regarding the formation of market valuation on herbal products. In addition to the four criteria of market valuation, another valuation mechanism for price formation exists. It becomes a reflective process for market actors that later influences consumer decisions. Preferences are cognitively anchored to the actors through experience and information, forming public trust that is ultimately embedded in the socio-cultural values inherent in herbal medicine.

Finally, the Covid-19 pandemic has shifted the behavior and consumption patterns of Asian people to be more health-conscious (Nielsen Company, 2020; Hartono et al., 2021). The utilization of herbal products to maintain health encourages the potential of traditional herbal ingredients, further strengthening their role in modern medicine. Not only are the raw materials easily found in Asia, but Asian people tend to be more familiar with traditional medicine (WHO, 2002; Cheung et al., 2020; F. Meng, et al., 2020). Even though jamu has a strong socio-cultural background, it remains necessary for jamu to have a scientific basis that meets the safety standards of traditional medicine to support its utilization in health service. This study provides a contribution related to symbolic value as a marketing model not only for traditional medicine products, but also for other products whose characteristics render them difficult to determine in value.

Implications for Asian Business

Indonesian jamu as a herbal product has great potential in the domestic and global markets. GP Jamu notes that the Covid-19 pandemic has significantly shifted the behavior and consumption patterns of the people of the world, including in Asia, to health-conscious patterns. Despite the negative impact experienced by various business sectors due to the Covid-19 pandemic, biopharmaceutical products record achievements of using more than 6 percent and 90 percent of domestic raw materials (Ministry of Industry, 2021).

The findings of this study of the market valuation mechanism show that herbal medicine is more recognized in terms of its symbolic value rather than its material or physical value. As stated by Tan and Ming (2003); Ferrell and Hartline, (2014); Anisimova, (2015); Ravasi and Rindova, (2008), consumers deem symbolic concepts important to emphasize an interest in a product. It supports the notion concerning a shift in the marketing model and strategy from previously emphasizing the value of benefits to focusing on symbolic value that affect the lifestyle and experience of the consumers.

Therefore, business actors need to be more aggressive in developing research on plants and herbal raw materials through the scientification of jamu. This study establishes initiatives that can be utilized by herbal companies as market actors in determining the variety of herbal products. Marketing strategies that emphasize symbolic value will open more comprehensive business models of the herbal medicine market.

Furthermore, TNA and corpus-based SNA can be implemented to determine the direction of herbal medicine development policies at the national level. They refer to the initial data collected from online media articles, showing the recent developing narratives of herbal medicine.

Herbal medicine companies can significantly increase market access, both export and domestic markets, by intensifying omnichannel distribution patterns that combine the strengths of online distribution channels such as marketplaces, social media, and websites with conventional offline distribution channels. In addition, the companies can also take advantage of the momentum of the back-to-nature trend and promote herbal products to be accepted in the Asian market. The herbal medicine industry has to be attentive in observing export opportunities during the pandemic because of its essential role in the economy.

Regardless of its contributions, this study has several limitations that present opportunities for future studies. According to Beckert (2009), the issue of market order relies on three aspects, namely valuation, coordination and cooperation. This study, however, merely explores the aspect of valuation. Future studies are required to further understand the market problems in the traditional medicine or jamu market through coordination and cooperation with wider digital data sources such as conversations on social media. The social order of market for jamu and other traditional medicine, specifically in Asia, can create a new business strategy that allows the involvement of more actors.

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