

# Presenting a model based on media and social networks in the management of intelligent electricity consumption

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**Abstract**

The purpose of this research is to present a model based on social media and networks in the management of intelligent electricity consumption. According to its purpose, the research method is applicable, and quantitative in terms of implementation, exploratory in terms of nature, and cross-sectional in terms of time. The statistical population of the research includes 179 of all the people who were connected with the electricity company and its activities during the last week and on social networks, selected by random sampling. A standard questionnaire was used to collect data. The face and content validity of the questionnaire was confirmed through confirmatory factor analysis. Data analysis was done using SPSS and Lisrel software. The results of this research indicate the existence of six variables in two parts: antecedents (social networks), and consequences (word of mouth advertising, brand loyalty, intelligence, and social knowledge) in the field of smart consumption management. Also, the GOF index was obtained as 0.88, which shows the strong fit of the model.

**Keywords:**

social networks,  
smart consumption,  
word of mouth  
advertising,  
brand loyalty

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## **Extended Abstract**

### **Introduction**

Social media is a strategic tool in the hands of resource owners to develop corporate brands, an environment that is very cost-effective with extensive communication and interaction with consumers and a small cost to introduce the product. Pages related to organizations in social media provide the possibility of two-way communication with consumers without time and place restrictions; whereas this communication has already been one-sided and from either the organization or consumers. Philip Kotler predicted that marketing had to revise its foundations to adapt to third wave societies and people (Piñeiro-Otero & Martínez-Rolán, 2016). The unprecedented growth of electricity demand compared to other countries of the world, the excessive consumption of this energy and the increase in the requirements of the country's economic productive sectors have made it inevitable to pay attention to the high increase in the determined capacity up to double the current capacity in less than a decade. Managing consumption and rationalizing the appropriate and timely use of electricity, by predicting the necessary mechanisms, is a way to provide a part of the main and necessary future needs for electricity. Conducting educational and promotional activities in the field of electricity consumption management is one of the most important mechanisms for creating an optimal culture of electricity and energy consumption using social media (Taghikhani & Mandegar Nik, 2019). Therefore, in this research, we are looking for an answer to this question: what is the model based on social media and networks in the management of intelligent electricity consumption?

### **Theoretical Framework**

#### **Social media**

Social media provides significant opportunities for marketers to reach consumers in social communities to create more intimate relationships. In social media, the power of consumers' online content about the brand is very powerful (Laroche et al, 2013). Kim & Ko (2012) believe that social media marketing measures include 5 dimensions: entertainment, engagement, trendiness, customization, and word-of-mouth marketing.

#### **Consumption management**

The energy sector is one of the most important components of the technical and economic infrastructure of society, and the continuation of activities in the production and service sectors and the improvement of people's living standards require the provision of various forms of energy in sufficient quantity. With economic development and progress, the importance of energy increases increasingly, and the household and commercial sectors are among the main sectors that consume energy, and the increasing consumption of electrical energy by them and spending large amounts of money to build new power plants doubles the importance of optimizing energy consumption and the need to manage it. Consumption management is a set of methods and strategies used to optimize energy consumption. Obviously, the term energy consumption management in its general sense includes all forms and types of energy (Zanganeh & Moghimian, 2015).

Asgharzadeh et al, (2023) investigated the use of social media influencers in the behavior of consumers in the luxury cosmetics industry. The results showed that a total of 11 factors and 93 components extracted and identified in social media marketing. Identified factors include: causal conditions (changes in the way of marketing, technological changes, people's biological changes), central phenomenon (the process of using social media influencers), background and platform factors (characteristics of social media influencers, brand characteristics), intervening factors (government factors, social insight of social media),

strategic factor (using different marketing strategies, measuring the success of influencers' advertisements), and consequence (advertising effectiveness).

Ebrahimi et al, (2020) investigated a two-step method for energy management in smart microgrids with the approach of improving the level of social welfare and the effect of demand side management. The simulations were done on the smart grid including three home, commercial, and industrial microgrids that have different types of controllable loads. The results indicate that the proposed program reduces the peak load, reduces the subscriber's bill, saves production costs, helps balance supply and demand, and improves the level of social welfare from the user's point of view.

### Research methodology

The research method is applicable in terms of its purpose, and quantitative in terms of implementation, exploratory in terms of nature, and cross-sectional in terms of time. The statistical population of the research includes 179 of all the people who were connected with the electricity company and its activities during the last week and on social networks, selected by random sampling. A standard questionnaire was used to collect data. The face and content validity of the questionnaire was confirmed through confirmatory factor analysis.

### Research findings

Data analysis was done using SPSS and Lisrel software. The results of this research indicate the existence of six variables in two parts: antecedents (social networks), and consequences (word of mouth advertising, brand loyalty, intelligence, and social knowledge) in the field of smart consumption management. Also, the GOF index was obtained as 0.88, which shows the strong fit of the model.

### Conclusion

The current research was conducted with the aim of designing and presenting a model based on social media and networks in the management of intelligent electricity consumption. The results of this research are in agreement with the results of Sadraee et al, (2024), Mirza et al, (2023), Tan et al, (2023), Varma et al, (2022), Khaled Mohammad et al, (2023), Khosravani & Bahman (2023), Khazaei et al, (2022), Chizari et al, (2022), Morovat & Nazari zadh (2022), Barrio Oton (2021), Kou et al, (2021), Pazhoheshfar & Biabani (2021), Hammerschlag et al, (2020), Asgharzadeh et al, (2023), Saba et al, (2022), Yazdani Kachuei et al, (2022), Zanganeh & Moghimian (2015), Ebrahimi et al, (2020), Tran & Strutton (2019), Algharabat et al, (2019), and Zanganeh & Moghimian (2015).

Ebrahimi et al, (2020) showed that simulations were performed on a smart grid including three microgrids: home, commercial, and industrial, which have different types of controllable loads. The results indicate that the proposed program reduces the peak load, reduces the bills of subscribers, saves production costs, helps to balance supply and demand, and improves the level of social welfare from the point of view of the users.

According to the results of the research, the following suggestions are presented:

1. Information: media; especially digital channels, books, newspapers, and the Internet can have the strongest effects on people's behavior by stimulating their aesthetic and emotional sense. According to the results of the research; natives, villagers, students, retired people, singles, people with higher income, educated people, and families with large population should be more exposed to training. These trainings must be repeated periodically and alternately to have a proper effect and efficiency; otherwise, they will be forgotten due to lack of continuity. In this regard, the following methods can be used:
2. Attention to the belief and emotional aspect of religiosity and religion;