



DOI: 10.17512/bozpe.2025.14.04



Construction of optimized energy potential
 Budownictwo o zoptymalizowanym potencjale energetycznym

ISSN 2299-8535 e-ISSN 2544-963X



Key elements of real estate agency websites – analysis of the customer preferences with use of the Kano method

Manuela Ingaldi^{1*} (orcid id: 0000-0002-9793-6299)

Katarína Lestyánszka Škúrková² (orcid id: 0000-0003-0088-5454)

¹ Czestochowa University of Technology, Poland

² Slovak University of Technology in Bratislava, Slovakia

Abstract: The real estate sales market is highly competitive, particularly in the residential sector. In 2024, Poland experienced a slight increase in property sales, reflected in a 5 % rise in prices. The decision to search for or purchase a property depends on numerous factors. One key factor is the work of real estate agencies and agents, who assist both buyers and sellers throughout the process. A wealth of information regarding specific properties, as well as the buying and selling process, can be found on real estate agency websites. This article aims to analyze the preferences of potential customers regarding the functionality and content of these websites. The Kano method was used in the study to identify which types of information are considered essential by potential customers and which factors influence their decision to choose one agency over another. The findings provide real estate agencies with valuable insights to improve and optimize their websites.

Keywords: real estate market, property sales, real estate agent, quality of services

Access to the content of the article is only on the bases of the Creative Commons licence CC BY-SA

Please, quote this article as follows:

Ingaldi, M. & Lestyánszka Škúrková, K. (2025) Key elements of real estate agency websites – analysis of the customer preferences with use of the Kano method. *Construction of Optimized Energy Potential (CoOEP)*, 14, 36-45. DOI: 10.17512/bozpe.2025.14.04

Introduction

The real estate sales market is highly competitive, particularly in the residential sector, where agencies must continuously adapt to changing customer expectations and market dynamics. In 2024, Poland experienced a slight increase in property sales, driven by growing demand and economic factors, which was reflected in a 5 %

* Corresponding author: manuela.ingaldi@pcz.pl

rise in prices. This trend highlights the importance of digital strategies and user-friendly online platforms in attracting potential buyers (Kraus-Kowalczyk, 2025).

The secondary real estate market in Poland has long been of great interest to both buyers and sellers. The sale of houses and apartments on the secondary market constitutes a significant portion of the entire real estate sector, with property prices often depending on location, the standard of finish, and the overall economic situation.

In major cities such as Warsaw, Kraków, and Wrocław, the demand for secondary-market apartments remains high, particularly among those seeking properties in well-connected and developed districts. Meanwhile, in smaller towns and suburban areas, single-family houses are more popular, offering greater space and a higher quality of living (Buzalska, 2024).

The dynamics of the secondary real estate market are influenced by factors such as changes in bank lending policies, interest rates, and the country's economic conditions. In recent years, price fluctuations have been noticeable, particularly in the context of rising mortgage costs and inflation. Nevertheless, real estate investment continues to be regarded as a safe way to preserve capital, making the market attractive to both private buyers and investors.

One key factor is the work of real estate agencies and agents, who play a crucial role in guiding both buyers and sellers through every stage of the transaction. Real estate agency websites serve as essential platforms, providing a wealth of information about specific properties, market trends, and the overall buying and selling process, helping clients make informed decisions.

Individuals considering the purchase of real estate, such as a house or an apartment, often begin their search independently by browsing online resources. This is how they find the websites of various real estate agencies. The initial impression and the decision to visit a particular property largely depend on the information provided on these websites, making them a critical component of the sales process. It is worth noting that while the actual purchase of real estate follows a traditional approach, a significant part of the decision-making process takes place online. Consequently, this phase of the transaction can be regarded as an e-service, at least in its early stages (Cieśla 2024; Cieśla & Ulewicz, 2024; Ślusarczyk & Wiśniewska, 2024).

From a business perspective, the internet has become an essential platform for delivering services and fostering customer relationships (Hsu et al., 2013). In today's digital landscape, a well-designed website and an active presence on social media are fundamental to marketing and business communications. There is a growing belief that if a company lacks an online presence, particularly on social media platforms, it is virtually invisible to potential customers.

Various e-service models (Blut et al., 2015; Blut, 2016; Ingaldi, 2022; Sharma, 2017) highlight key factors influencing service quality, including website design, visual appeal, functionality, and content. Given this, real estate clients are likely to assess the quality of an agency's services based on its website. This underscores the importance of designing a professional, user-friendly, and informative online platform that effectively represents the company and its offerings.

This article aims to conduct a comprehensive analysis of the preferences and expectations of potential customers concerning the functionality, structure, and content of real estate agency websites. Understanding these preferences is crucial for agencies seeking to enhance user experience, attract more visitors, and ultimately convert them into customers.

To achieve this objective, the study employed the Kano model, a well-established method for categorizing customer requirements based on their impact on satisfaction. This approach allowed researchers to identify and differentiate between essential website features, e.g. those that potential customers consider fundamental, and additional elements that may enhance user experience but are not necessarily decisive factors in choosing one agency over another. By examining user perceptions, the study provides insights into which types of information, services, and design elements play a key role in influencing customer decisions.

The findings of this research offer valuable guidance for real estate agencies seeking to improve and optimize their websites. By prioritizing the most critical aspects of website functionality and content, agencies can better meet client expectations, increase engagement, and gain a competitive edge in the market. Furthermore, understanding which features are considered attractive but not essential can help agencies allocate resources effectively, ensuring that their digital platforms serve as powerful tools for client acquisition and retention.

1. Methodology

The research was conducted using the Kano questionnaire. This approach made it possible to categorize all the characteristics that a real estate agency website should possess, based on the opinions of potential clients. A comprehensive list of features considered in the development of the study's action plan is presented in Table 1. The selection of these features was based on an analysis of the websites of different real estate agencies in Poland and abroad.

Customers were asked to express their opinions on specific attributes of a real estate agency website twice: once when the website included a given attribute and once when it lacked that attribute. For this purpose, they used the following response scale (Bakhitar et al., 2015; Ingaldi & Ulewicz, 2019; Wolniak & Skotnicka, 2008):

- I like it.
- That's the way it has to be.
- I don't mind.
- I can put up with it.
- I don't like it.

An analysis of the results was based on the individual types of attributes contained in the questionnaire using the comparison presented in Table 2. It was then checked which type of feature was indicated most often.

Table 1. List of the attributes used during the research (*own research*)

Group of attributes	No	Attribute
Property Information	1.	Detailed property descriptions (e.g., size, number of rooms, year of construction)
	2.	High-quality property photos (professional photos, different perspectives)
	3.	Virtual tours and videos (option to view the property online)
	4.	Exact location on a map (e.g., Google Maps, Street View)
	5.	Availability of key documents (e.g., land register, property plans)
	6.	Floor plan (e.g., technical drawing of the property)
Search and Filtering of Listings	7.	Advanced search engine (filtering by price, size, location, etc.)
	8.	Map-based search (displaying properties for sale on a map)
	9.	Ease of use of the search engine (intuitive user experience)
	10.	Saving favorite listings (ability to create a list of watched properties)
	11.	New listing notifications (e.g., email/SMS alerts for newly listed properties matching criteria)
Contact and Customer Support	12.	Contact details (agency contact information, address, phone, email)
	13.	Agent information (name, short experience description, contact details)
	14.	Quick contact with an agent (live chat, contact form, phone, WhatsApp)
	15.	Online appointment scheduling (booking a meeting with an agent through the website)
	16.	Customer reviews and recommendations (testimonials from people who used the agency's services)
	17.	Description of the property buying/selling process (schematic overview of both processes)
Additional Tools and Features	18.	Mortgage and transaction cost calculator (e.g., mortgage installment calculation, taxes, notary fees)
	19.	Guides for buyers and sellers (e.g., negotiation tips, preparing a property for sale)
	20.	Interactive neighborhood map (schools, shops, public transport stops near the property)
	21.	Mobile-friendly version and mobile app (whether the website works well on phones and tablets)
Trust and Security	22.	Agency certificates and licenses (information about agents' qualifications and certifications)
	23.	Price and fee transparency (no hidden costs, clear information on agency commission)
	24.	Personal data security (GDPR compliance, encrypted connection)
	25.	Accessibility features (meeting WCAG 2.0 requirements)

Table 2. Type of attribute in the Kano method (Bakhitar et al., 2015; Wolniak & Skotnicka, 2008)

	Negative					
		I like it	That's the way it has to be	I don't mind	I can put up with it	I don't like it
Positive	I like it	Q	A	A	A	O
	That's the way it has to be	R	I	I	I	M
	I don't mind	R	I	I	I	M
	I can put up with it	R	I	I	I	M
	I don't like it	R	R	R	R	Q
	Notes: A – attractive; O – one-dimensional; M – must-be; I – customer was indifferent to the attribute; R – customer did not like the attribute; Q – there was a contradiction: customers both wanted the attribute to occur and not to occur.					

The meanings of each attribute are as follow (Antony, & Preece, 2002; Ingaldi et al., 2018; Lampa & Mazur, 1996; Webber & Wallace, 2007):

- "Must-be" (M) attributes are essential features that customers expect as a standard. Their absence leads to dissatisfaction and can result in losing the customer.
- "One-dimensional" (O) attributes significantly impact customer satisfaction, as their presence increases satisfaction almost proportionally. Failure to meet these attributes reduces satisfaction, but not as drastically as missing "must-be" attributes.
- "Attractive" (A) attributes serve to capture customer interest and can eventually become "must-be" features or lose relevance. While their absence does not cause dissatisfaction, poorly designed ones may go unnoticed.
- "Reverse" (R) attributes are unwanted features that customers prefer to be absent. Their presence leads to dissatisfaction, making the product or service less appealing.
- "Indifferent" (I) attributes have no effect on customer satisfaction, whether they are present or not.
- "Contradiction" (Q) occurs when an attribute is rated both positively and negatively in different question formats of the Kano method.

The evaluations provided by customers in the Kano questionnaire can be used to determine customer satisfaction and dissatisfaction indexes using the following formulas (Keshavarz, 1993):

$$\text{satisfaction index} = \frac{A + O}{A + O + M + I} \quad (1)$$

$$\text{dissatisfaction index} = -\frac{O + M}{(A + O + M + I)} \quad (2)$$

A minus sign is applied to the dissatisfaction index (Eq. (2)) to highlight its negative impact on customer perception when product quality expectations are not met.

The satisfaction index ranges from 0 to 1, where values closer to 1 indicate high customer satisfaction. It is also essential to analyze negative satisfaction values, represented by the dissatisfaction index. If this value approaches -1 , customer dissatisfaction is significantly high. A higher positive factor indicates increased satisfaction, driven by "attractive" and "one-dimensional" attributes. In contrast, a higher negative factor suggests growing dissatisfaction, caused by unmet "one-dimensional" and "must-be" attributes (Keshavarz, 1993).

The Kano questionnaire was distributed to potential customers and shared across various social media platforms between January – April 2024. It was a study aimed at helping a new real estate agency create an appropriate website where it could publish the most important information for its customers.

A total of 129 respondents successfully completed the survey. Based on the collected responses, the number of answers for each category was analyzed according to the classifications presented in Table 1. For each feature, the most frequently selected category was identified, followed by the calculation of the satisfaction and dissatisfaction indexes. These indexes were then plotted on an attribute map, where the X-axis represents the absolute value of the dissatisfaction index, and the Y-axis represents the satisfaction index. This visualization enables a more detailed analysis of feature categories and their impact on customer perception.

2. Results and discussion

In Table 3 the main results obtained thanks to the Kano questionnaire are presented. The type of features and the satisfaction and dissatisfaction indexes were determined. The number of votes in the category are calculated on the basis of the obtained results and assumptions presented in Table 2. Additionally, according to the number of votes, the satisfaction and dissatisfaction indexes were calculated with use of formulas (1) and (2).

Figure 1 presents the attribute map based on the Kano questionnaire. This map was created using the calculated satisfaction and dissatisfaction indexes presented in Table 3.

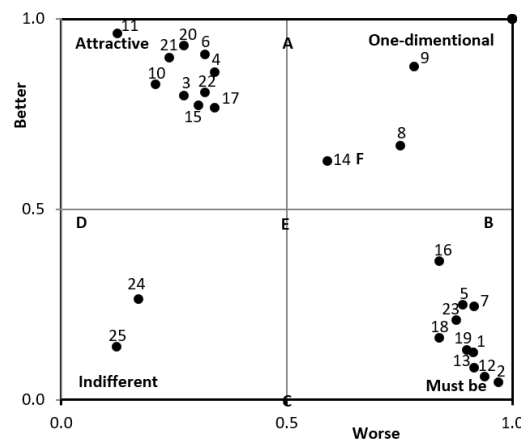


Fig. 1. Map of attributes for the real estate agency website (own research)

Table 3. List of the attributes used during the research (*own research*)

No.	The number of votes in the category						Evaluation of the attribute	Satisfaction index	Dissatisfaction index
	A	M	O	I	Q	R			
1.	11	112	5	0	1	0	M	0.125	-0.914
2.	4	123	2	0	0	0	M	0.047	-0.969
3.	91	23	12	3	0	0	A	0.798	-0.271
4.	85	18	26	0	0	0	A	0.860	-0.341
5.	14	96	18	0	1	0	M	0.250	-0.891
6.	88	12	29	0	0	0	A	0.907	-0.318
7.	11	98	21	0	0	0	M	0.246	-0.915
8.	14	25	72	18	0	0	O	0.667	-0.752
9.	24	12	89	4	0	0	O	0.876	-0.783
10.	96	16	11	6	0	0	A	0.829	-0.209
11.	112	5	11	0	1	0	A	0.961	-0.125
12.	8	121	0	0	0	0	M	0.062	-0.938
13.	11	118	0	0	0	0	M	0.085	-0.915
14.	17	12	64	36	0	0	O	0.628	-0.589
15.	87	27	12	2	1	0	A	0.773	-0.305
16.	21	82	26	0	0	0	M	0.364	-0.837
17.	82	27	17	3	0	0	A	0.767	-0.341
18.	21	108	0	0	0	0	M	0.163	-0.837
19.	13	112	4	0	0	0	M	0.132	-0.899
20.	94	9	26	0	0	0	A	0.930	-0.271
21.	98	13	18	0	0	0	A	0.899	-0.240
22.	88	25	16	0	0	0	A	0.806	-0.318
23.	16	102	11	0	0	0	M	0.209	-0.876
24.	19	7	15	87	1	0	I	0.266	-0.172
25.	9	7	8	98	0	7	I	0.139	-0.123

Analyzing the results presented in Table 3 and Figure 1, it can be observed that the most common attributes are ‘must be’ (M) and ‘attractive’ (A). The ‘must be’ attributes are those that must be present on a real estate agency’s website. Their presence determines whether clients decide to use a particular agency. On the other hand, ‘attractive’ attributes are those whose presence may influence clients’ decisions to choose one real estate agency over another. Therefore, it is important to include these features on the agency’s website. These features may eventually become mandatory if customers get used to them.

Among the ‘attractive’ attributes, those with the highest satisfaction index include: 11. New listing notifications (e.g., email/SMS alerts for newly listed properties

matching criteria); 20. Interactive neighborhood map (schools, shops, public transport stops near the property); 6. Floor plan (e.g., technical drawing of the property). These attributes are rarely found on real estate agency websites.

Among the ‘must be’ attributes, those with the highest dissatisfaction index are: 2. High-quality property photos (professional photos, different perspectives); 12. Contact details (agency contact information, address, phone, email); 7. Advanced search engine (filtering by price, size, location, etc.). These attributes are practically present on every real estate agency website.

Three ‘one-dimensional’ (O) attributes and two ‘indifferent’ attributes were also identified. ‘One-dimensional’ attributes influence customer satisfaction, e.g. the better they are fulfilled, the more satisfied the client is. However, they are not mandatory, meaning their absence should not impact the decision to use a particular real estate agency. Therefore, it is crucial to determine the appropriate level of fulfillment for these attributes. They include: 8. Map-based search (displaying properties for sale on a map); 9. Ease of use of the search engine (intuitive user experience); Quick contact with an agent (live chat, contact form, phone, WhatsApp).

For the attributes 24. Personal data security (GDPR compliance, encrypted connection); 25. Accessibility features (meeting WCAG 2.0 requirements), respondents did not indicate any preferences, meaning they may or may not be present on a real estate agency website.

Conclusions

The study of a real estate agency’s website using the Kano method allows for the identification of key attributes influencing customer satisfaction, categorizing them into mandatory, attractive, and neutral features. This enables agencies to better tailor their websites to user expectations, increasing their competitiveness in the market.

The analysis highlights the importance of prioritizing both mandatory and attractive attributes on real estate agency websites. While ‘must be’ attributes ensure the site meets fundamental user expectations, and ‘attractive’ attributes provide competitive advantages. Real estate agencies should also pay attention to ‘one-dimensional’ attributes to enhance customer satisfaction, even if they are not strictly necessary.

The analysis of the results showed that the most important attributes on real estate agency websites are those classified as "must be" (M) and "attractive" (A). "Must be" attributes are essential elements whose presence determines whether clients choose to use a particular agency. Among them, the highest dissatisfaction index is associated with high-quality property photos, contact details, and an advanced search engine.

On the other hand, "attractive" attributes can enhance an agency’s competitiveness, influencing clients' decisions. The most desirable features include new listing notifications, an interactive neighborhood map, and property floor plans – elements that are rarely found on real estate agency websites.

Additionally, "one-dimensional" (O) attributes were identified, which improve customer satisfaction but are not mandatory. These include map-based search, an intuitive search engine, and quick contact with an agent. Meanwhile, "indifferent" (I) attributes, such as personal data security and accessibility features, had no significant impact on user preferences.

These findings highlight the necessity of including key "must be" attributes while also considering the implementation of "attractive" features, which may eventually become industry standards.

The study is not free from limitations. The first issue is the small number of respondents. However, it should be emphasized that such agencies are not used frequently, which is why few people were willing to participate. Additionally, the list of attributes used in the survey may be subjective; however, it was developed based on an analysis of various websites of both Polish and international real estate agencies. The evaluation of the obtained results could also be subjective, although the author aimed to approach it objectively. Errors in the interpretation of questions were also possible, as respondents might have understood the questions differently, which could lead to ambiguous or inconsistent answers.

The findings provide real estate agencies with valuable insights in order to enhance user experience, improve functionality, and optimize their websites to better meet customer expectations. By understanding key attributes that influence user satisfaction, agencies can implement strategic improvements that increase engagement, competitiveness, and overall usability.

Acknowledgements

Research and publication were financed by the statutory research fund of the Czestochowa University of Technology.

Bibliography

- Antony, J. & Preece, D. (2002) *Understanding, Managing and Implementing Quality. Frameworks, Techniques and Cases*. London and New York: Routledge.
- Bakhitar, A., Hannan, A., Basit, A. & Ahmad J. (2015) Prioritization of value based services of software by using Ahp and fuzzy KANO model. In: *International Conference on Computational and Social Sciences*, August 25-27.
- Blut, M. (2016) E-service quality: Development of a hierarchical model. *Journal of Retailing*, 92(4), 500-517.
- Blut, M., Nivriti, C., Vikas, M. & Brock, C. (2015) E-service quality: A meta-analytic review. *Journal of Retailing*, 91(4), 679-700.
- Buzalska, M. (2024) *Kwartalnik mieszkaniowy: podsumowanie z rynku nieruchomości | III kwartał 2024. Oto Dom* (<https://www.otodom.pl/wiadomosci/pobierz/raporty/kwartalnik-mieszkaniowy-podsumowanie-z-rynku-nieruchomosci-iii-kwartal-2024>) (11.12.2024).
- Cieśla, J. (2024) Evaluating service quality in automotive outsourcing: Gaps between standards and practice. *System Safety: Human – Technical Facility – Environment*, 6(2), 99-109.

- Cieśla, J. & Ulewicz R. (2024) The future of automotive quality control: How cloud-based reporting is changing the game. *Management Systems in Production Engineering*, 32(1), 72-79.
- Hsu, L.C., Wang, K.Y. & Chih W.H. (2013) Effects of web site characteristics on customer loyalty in B2B e-commerce: Evidence from Taiwan. *The Service Industries Journal*, 33(11), 1026-1050.
- Ingaldi, M., Kadłubek, M. & Dziuba S.T. (2018) Kano model as an instrument of total quality management. In Okręglicka, M., Korombel, A., Lemańska-Majdzik, A. (Ed.), *Proceedings of the 2nd International Conference Contemporary Issues in Theory and Practice of Management*. Częstochowa, Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej, 149-156.
- Ingaldi, M. (2022) *Rola satysfakcji klienta w kształtowaniu i poziomowaniu jakości usług*. Częstochowa, Wydawnictwo Politechniki Częstochowskiej.
- Ingaldi, M. & Ulewicz, R. (2019) How to make e-commerce more successful by use of Kano's model to assess customer satisfaction in terms of sustainable development. *Sustainability*, 11(18), 4830.
- Keshavarz, A. (1993) Kano's methods for understanding customer-defined quality. *Center for Quality of Management Journal*, 2(4).
- Kraus-Kowalczyk, N. (2025) Rynek mieszkaniowy w 2024 r. pod lupą ekspertów. Rekordowa przewaga podaży. *Business Insider* (<https://businessinsider.com.pl/nieruchomosci/sprzedaz-mieszkan-w-polsce-spadla-o-31-proc-w-2024-r/9sqjkv1>) (access 12.01.2025).
- Lampa, S. & Mazur G. (1996) Bagel sales double at Host Marriot. In *The Eighth Symposium on Quality Function Deployment*. Michigan.
- Sharma, G. (2017) Service quality, satisfaction and loyalty on online marketing: An empirical investigation. *Global Journal of Management and Business Research. E: Marketing*, 17(2), 57-66.
- Szczyrba, A. & Szataniak, M. (2023) Decoding consumer preferences in food packaging with the Kano model. *System Safety: Human – Technical Facility – Environment*, 5(1), 83-92.
- Ślusarczyk, B. & Wiśniewska, J. (2024) Barriers and the potential for changes and benefits from the implementation of Industry 4.0 solutions in enterprises. *Production Engineering Archives*, 30(2), 145-154.
- Webber, L. & Wallace, M. (2007) *Quality Control for Dummies*. Hoboken: Wiley Publishing Inc.
- Wolniak, R. & Skotnicka, B. (2008) *Metody i narzędzia zarządzania jakością. Teoria i praktyka*. Gliwice: Wydawnictwo Politechniki Śląskiej.