

Examination of Visual Brand Identity Elements of Retail Banking Websites Using Eye-tracking

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Abstract

The aim of this research was to investigate the impact of visual brand identity elements on consumer awareness and their role in brand identification through the websites of two retail banks in Hungary. The research focuses on Generation Z. Applying the interdisciplinary approach of marketing and ergonomics, the importance of the research lies in the fact that it fills a knowledge gap, since few studies in the literature examine and connect the elements of visual brand identity in the retail banking sector with consumer perception. Two online communication websites of retail banks were examined using eye-tracking methodology to obtain more information on how visual brand identity elements influence consumers' attention. The study is based on 2 x 20 eye-tracking studies, 2 x 20 interviews and 2 x 20 surveys. The eye-tracking results were processed using Tobii Studios, heatmaps and gaze plot visualisation. Based on the results the most important visual brand identity elements on the websites of the studied retail banks are the logo, colour, human figure, and slogan. Moreover, the visual brand identity elements that appear on the website as moving images have an impact on viewers' attention, drawing attention towards the textual content.

Keywords

branding, visual brand identity, consumer, eye-tracking, retail banking

1 Introduction

One of the critical elements and defining issues in marketing science is deciding which brand identity elements, as a branding tool, are worth building and selecting for the design and construction of a brand, according to research by Romaniuk (Ward et al., 2020). This is important to decide since consumers may encounter different brand identity elements in their purchase decision processes when choosing a product or service (Motoki et al., 2021). When consumers choose a product, they encounter visual stimuli of the brand.

Brand managers and designers can choose from a range of visual brand identity elements to maximise the value of branding. Previous empirical research has been conducted on the elements of visual brand identity. Among this research, two distinct research directions can be identified (Phillips et al., 2014). One type of research direction on visual elements of brand identity has focused on examining one or two brand identity elements (e.g., logo) in isolation, with the aim of eliciting greater liking of these elements

(Phillips et al., 2014). Examples of such research include typography (McCarthy and Mothersbaugh, 2002), logo (Henderson and Cote, 1998), colour (Gorn et al., 1997) and product-related shapes (Veryzer and Hutchinson, 1998). The aforementioned research examined only the implicit meaning of an element or the performance of these brand identity elements (Aslam, 2006; Bottomley and Doyle, 2006). Other lines of empirical research on visual brand identity elements have sought to answer the question as to the regularity with which visual brand identity elements should be constructed to be as consistent as possible with the meaning of the "desired" brand (Phillips et al., 2014). Examples of this line of research include "strong typefaces to connote brand strength" (Childers and Jeffrey, 2002; DeRosia, 2008; Doyle and Bottomley, 2006), contrasting packaging for exciting brands (Orth and Malkewitz, 2008), angular shapes for acidic brands (Spence, 2012), white space to convey prestige and power (Pracejus et al., 2006), and

background images of pennies on websites to prime price association (Mandel and Johnson, 2002). Based on the literature, a research question arose to determine which visual brand identity elements are preferred by consumers, rather than focusing on only one or two visual brand identity elements as has been done in previous literature. This study investigates which of the retail banks' visual brand identity elements in online interfaces are the most salient for consumers and which help to identify the brand. This is necessary to ensure that innovative online product development and strategic planning for brand identity develop consumer-preferred products that can influence consumers' choice of bank as well as their long-term brand loyalty and trust.

Recent research recommendations in the *International Journal of Bank Marketing* emphasise the importance of research into finance for the young age group (She et al., 2023). Hentzen et al. (2022) highlight that more empirical research in the financial sector that examines consumer behaviour is needed (Hentzen et al., 2022). The banking sector has faced many short and long-term challenges and obstacles, such as the online environment, artificial intelligence due to digitalisation and the rise of the Fintech sector. According to Niu, (2013) and Rajh, (2022), digitalisation and internet technology have transformed consumer buying behaviour. When consumers encounter a website in the online environment, it influences their propensity to buy (Wibowo, 2021). From a consumer perspective, several digital trends can be identified in the sector. For example, Mastercard, (2019) research shows that Europeans are very interested in digital financial services. Europeans think that the biggest advantage of digital banking solutions is that they save time (66%) and are easy to use (65%). Two-thirds of Europeans (63%) believe that the demand for mobile financial solutions will increase soon, because it makes transactions simple and convenient. Research by Comnica (2022) shows that nearly half (40%) of the Hungarian banking and insurance clients likes digital channels to settle their finances.

Given these trends, the banking sector faces a moment of change, as they have to decide how to position themselves in the new global financial system that has emerged as a result of digitalisation and determine how their brands will be competitive for consumers (Berber et al. 2019).

This is why it is also important for banks to develop consumer-friendly visual brand identities and easy-to-use online interfaces for their brands' online communication, due to the strong digitalisation. The importance of visual communication and visuality in the retail banking

sector is also unquestionable. Therefore, this research study investigates the impact of visual brand identity elements on Generation Z through two retail banking websites in Hungary. Based on the literature discussed above, it is important to examine visual brand identity in a complex way, not only element by element. Previous studies in the banking sector have investigated, for example, the effects of brand identity on employee attitudes and behaviours (Bravo et al., 2017), or the consistency of brand identity elements designed by the bank with the brand identity decoded by employees (Buil et al., 2016; Zwakala et al., 2017). These studies focused on bank employees and not on the final consumer. However, She et al. (2023) highlight that research on the financial wellbeing of young people is a particularly important research direction. This is why Generation Z was chosen for this research.

In this research, an eye-tracking methodology has been used to identify the eye movements and hence attention of Generation Z members, focusing on visual brand identity elements on websites. Eye-tracking has been applied in several fields, such as general product development, assistive technologies, web, and software ergonomics and neuromarketing research (Katona, 2021; Lázár et al., 2020; Szabó, 2020; Szabó et al., 2022). In the following chapters, the scientific definitions and approaches of brand identity and visual brand identity are presented with the introduction of the eye-tracking methodology and its role in marketing research, followed by the analysis and summary of the research results together with the drawn conclusions.

2 Literature

Companies often use branding strategies to communicate their brand identity and values to consumers. Gombos and Bíró-Szigeti, (2023) also mentions that in the banking sector brand identity management is quite relevant. The most fundamental concept of brand building is brand identity (Ianenko et al., 2020). However, according to Bosch et al., (2004), corporate visual brand identity (CVI) has three levels: strategic, operational, and planning. The strategic level includes corporate brand identity, corporate branding, and international aspects. The operational level includes, for example, the CVI system. The design level includes corporate names, corporate logos, corporate slogans, colours, and typography. Corporate brand identity is the entity that is often created (Halliday and Kuenzel, 2008) by companies in marketing and design to differentiate their products and services. Brand identity can be conveyed to consumers through marketing stimuli (Nandan, 2005).

Academic marketing literature defines the dimensions and elements of brand identity in several approaches. The literature distinguishes between these models, for example, based on "market oriented" or "brand oriented" groupings (Urde, 2013). For example, Ted Bates' advertising agency developed the "Brand Wheel" in the 1980s (Urde, 2016). The "Brand Wheel" helps companies and brands to gain a deeper understanding of the essence of their brand and the values they want to convey to consumers. In doing so, they can help position and communicate their brand. The "Brand Wheel" is composed of five concentric circles. The concentric circles consist of the following elements: attributes, benefits (functional, emotional, or symbolic), values and brand personality. The "brand essence" is at the core of the "Brand Wheel" model circle. Other models with this logic include *Unilever's* Brand Key or *Johnson and Johnson's* Bull's Eye. Can also be mentioned which is the Brand Concept-Image model, a landmark in the academic literature (Urde, 2013). "Brand Identity Model" by *Aaker (1996)* states that brand identities are unique associations that companies create and try to maintain. The associations created by companies are what consumers encounter when interacting with the company. In this way, consumers may encounter the core characteristics and attributes of the company (brand) (Esch, 2008), through which consumers may perceive the brand identity (Aaker, 1996). *Aaker's (1996) famous "Brand Identity Model"* divides brand identity into four dimensions: "Brand as product" (brand encompasses the core attributes and characteristics that characterise the product or service, including for example product quality, etc.). "Brand as organisation" (the brand encompasses the values and beliefs that underpin the company or organisation, this may include corporate culture, corporate values and corporate history). "Brand as person" (the brand has human characteristics such as personality or emotions). "Brand as symbol" (the brand serves as a kind of symbol that embodies the brand's values and message). This dimension includes the brand's logo, colours, style, and other visual elements. Those who take other approaches towards brand identity in the literature, such as Harris and de Chernatony, (2001) and de Chernatony (1999), argue that brand identity is composed of the following dimensions: brand vision, brand culture, positioning, personality, relationships, and presentation. Based on the work of Carl Jung breaks down brand archetypes into 12 parts in his brand archetype approach (Mark and Pearson, 2001). In this theory brand identity reflects the personality of each archetype. Keller (2003), in "Brand Equity Model (CBBE)", also includes brand identity. Keller (2003) identified four

steps to build strong brands which are defining brand identity establishing easy brand recognition in consumers and associate it in their minds with a particular product class or need ("Who are you?"), brand meaning ("What are you?"), brand response eliciting appropriate customer reactions at the level of feelings and judgements associated with the brand ("What do you think?"), relationships ("What is the relationship between me and you?"). Kapferer (2012) in "Brand identity in prism" lists the following six factors that build brand identity: physical attributes (design, how the brand looks), personality (built through communication), relationship (brand's relationship with the customer), culture (based on brand vision and value), reflection (reflection of target group's image in the brand's communication), and self-image (choosing or not choosing a brand is related to one's self-image). According to Bravo et al. (2012) summarising table corporate brand identity includes the following dimensions: visual identity, communication, behaviour, culture, strategy, organisational structure. Examples of other previous approaches of brand identity from the literature include Balmer (2010), "AC4ID framework" (Balmer, 2010; Urde, 2013), Urde and Greyser, (2014), "Corporate brand identity matrix", Urde (2016) "Brand identity and reputation matrix". According to the above authors' approach, brand identity is the combination of name, terms, symbols, signs, and design used to identify a brand's goods or services and distinguish it from competitors (Ward et al., 2020). Thus, visual brand identity is part of brand identity (Bravo et al., 2012; Ward et al., 2020). Corporate visual identity (CVI) has many functions: it symbolises the organisation, provides visibility and identifiability, expresses structure, and can internally enhance employee identification with the organisation by using elements of corporate visual identity which are often displayed in communication (van den Bosch, 2005). In this study, the following academic approaches are used to investigate visual brand identity on websites: A corporate visual identity (CVI) consists of a name, a symbol and/or logo, typography, colour, a slogan and, very often, additional graphic elements (Melewar et al., 2001; van den Bosch, 2014). The elements of a visual brand identity may include, for example: logo, signature, slogan, layout, shapes (e.g: shapes of buttons, shapes of images, shapes of graphics, shapes of menu options, round corners of menu windows instead of square corners) forms, symbols, colour, typography, graphic illustrations, favicon, relationship elements (user experience-speed of loading, navigation, speed of response to website), images, videos (Magrath and McCormick, 2013; Rowley, 2004; Stoimenova, 2017; Wheeler and Meyerson, 2024).

In addition, visual identity includes, for example: the appearance of products, printed materials, uniforms, equipment, packaging, displays, advertisements, building interiors and exteriors, cars, trucks, and signs that can help identify the organisation (Melewar et al., 2001).

Brand managers and designers can choose from a range of visual brand identity elements to maximise the value of branding. These visual brand identity elements shape the brand image and help consumers to identify the brand and are present in the purchasing decision process. In this sense, the function of the visual brand identity is to create a synergy effect between the individual brand elements (unified style), thereby creating a unique mood and feeling that helps consumers to recognise and identify the brand (Ward et al., 2020). Different visual brand identity elements will be successful for the company if they create the right emotional response (Hlédik and Logo, 2017) and brand image in consumers (Filkovskaia, 2017).

2.1 Eye-tracking method

Eye-tracking is a method used in many research areas, especially in marketing research (Wedel and Pieters, 2008). This method allows measuring the behaviour of participants by mapping their unconscious visual reactions. There are many types of eye-tracking devices, but most of them use infrared light (undetectable for the human eye) to illuminate the eye and optical sensors to measure gaze direction and eye movement (Szabó, 2020). Eye-tracking technology is based on tracking two main eye movements: saccades and fixations. Fixations are the short (200–600 ms) eye movements where information is recorded and processed, while saccades are the eye movements that connect fixations, where no information is recorded (Sekuler et al., 2002).

There are several ways to visualise eye-tracking data. In this section two of the most used are demonstrated: scan path diagrams, and heatmaps. A scan path diagram is a visualisation based on saccades and fixations. In this case, fixations appear as points on the stimulus material, while saccades appear as lines connecting the points (fixations). The scan path diagram also provides a visual representation of how the scan of the stimulus material was performed, the order in which the participant viewed each part of the material, and the time spent on each part (the length of the fixation is indicated by the size of the dots) (Szabó and Szederkényi, 2020).

Another visualisation form of eye-tracking data is called heatmap. A heatmap shows an aggregated form of the participants' most and least viewed areas. While the

most viewed areas are marked in red (warm colour), the least viewed areas are marked in green (cold colour) (Szabó, 2020).

2.2 Eye-tracking in marketing

Due to the increasingly significant advance of the online environment, it is important for organisations to understand what makes the online appearance of their website successful (Țichindelean et al., 2019). Eye-tracking devices have spread widely, and the method is used in many scientific fields, for example in usability research, human-computer interaction, psychology, and in marketing research (Lund, 2016) as the importance of visual marketing continually grows (Pieters and Wedel, 2004). The object's perceptibility can be measured from the consumer's point of view with the help of the eye-tracking method (Hercegfi et al., 2019). Eye-tracking technology is becoming more and more important in the United States and Europe as well. Every day, consumers are exposed to hundreds of advertisements on television, newspapers, magazines, and Internet websites, as well as many other visual marketing stimuli. Several large companies use the technology in industry to monitor their visual marketing activities (Lund, 2016), but the method is still not typical in academic marketing research (Gönczi and Hlédik, 2020).

Eye-tracking can also play a major role in marketing research, as the study of visual attention is a key tool in the analysis of consumer behaviour. Eye-tracking is a method used in many areas of marketing (Białowas and Szyszka, 2019; Marcin, 2019). This includes, among others, the packaging design (e.g., shape, size, colour of packaging or the presence of potentially misleading elements) (Sielicka-Różyńska et al., 2021), merchandising research (e.g., the impact of visual attention-grabbing techniques on purchase intentions) (Huddelston et al., 2015), online advertising studies (e.g., banner studies) (Barreto, 2013), web-shop studies (Szabó, 2020), product attribute studies to predict consumer preferences (Hámornik et al., 2019).

Tracking eye movements can be a perfect addition to traditional research methods (e.g., survey; in-depth interviews) (Marcin, 2019). Marketing research can use eye-tracking method in communication processes to optimise visualisation, according to which the decision-making process of consumers is also optimised, thereby increasing sales (Maughan et al., 2007; Meißner et al., 2019; Pentus et al., 2020; van der Lans et al., 2008).

3 Research methodology and research questions

The aim of this research is to investigate the visual brand identity of two retail banking websites in Hungary among Generation Z through eye-tracking, structured interviews, and survey research. The present research fills a gap because previous research in the banking sector in Hungary has not investigated Generation Z, nor has it used eye-tracking studies to investigate visual brand identity (Bravo et al., 2012; Bravo et al., 2017; Buil et al., 2016; Zwakala et al., 2017). The aim of this study is to examine which visual brand identity elements participants from Generation Z focus on the most when using online retail banking platforms. Garai-Fodor and Csiszárík-Kocsir, (2018) highlight that the values and mindset of this generation are unique and differ from previous generations, and that this is true also in terms of financial decision-making. Therefore, this study focuses on Generation Z. Therefore, based on previous research in the sector and the literature review of the present research, the following research questions are posed in relation to the study of visual brand identity and Generation Z:

- *RQ1: Which visual brand identity elements attract consumers' attention on the online websites of the retail banking sector based on the eye-tracking study?*
- *RQ2: How do the moving elements on the examined websites influence consumers' attention to visual brand identity elements?*
- *RQ3: Which visual brand identity elements help consumers identify the brand on the investigated websites of the retail banking sector, based on the responses to the interview questions? (problem exploration, based on the research participants' own admission)*
- *RQ4: Which visual brand identity elements help consumers identify the brand on the investigated websites of the retail banking sector, based on their responses to the Likert scale questionnaire? (problem identification based on guided answer options).*

3.1 Location and date of the study, description of the analytical tool

The research investigated the visual brand identity elements of two banking websites in Hungary between 22.04.2022 and 03.05.2022. The research was conducted in the laboratory of the Department of Ergonomics and Psychology, Budapest University of Technology and Economics. A total of 20 people participated in the research on a voluntary basis.

Since the design of the study was very similar to a usability study (the participant was given tasks followed by a short interview), the number of participants was based on the usual 5–8 participants for usability studies, so this was taken as a basis in this research (Nielsen, 1994). However, since we also worked with quantitative data, the number of participants was increased to 20. In this study different research methods were used. It means that qualitative structured interview, eye-tracking method and were used to support the results of the eye-tracking study as much as possible. The participants were all members of Generation Z, whose highest educational qualification was high school graduation, but all participants were enrolled in BSc during the study period.

Eye-tracking studies were conducted using Tobii T120 device. Babicsné-Horváth and Hercegfí (2023) highlight that eye-tracking is a standard tool for researchers and used Tobii T120 as a research method. The visualisations presented in this research were also created using Tobii Studio software. The study with one participant took approximately 60 min, which was divided into two 30-min sessions. In the case of 10 participants, the first 30-min started with the eye-tracking examination of website "A", followed by an interview and survey in connection with website "A", and the next 30 min were spent eye-tracking examination of website "B", which was ended by an interview and survey in connection with website "B". In the case of the other 10 participants, the study was done in reverse. This meant that in the first 30 min, participants started with eye-tracking examination of website "B", continued with an interview and survey in connection with website "B" and after that in the next 30 min, website "A" followed which was finally ended with an interview and survey in connection with website "A". The purpose of this methodology was to investigate the same research questions with different methods. In total, 2×20 piece of eye-tracking observations were made with 20 participants throughout the entire study, resulting in 40 pieces of eye-tracking observations. One difference was identified between the two retail banking websites studied. On the website "A", there was no moving visual brand identity element on the home screen (e.g., a moving slideshow that moved images). However, on website "B", a moving slideshow appeared on the home screen. This meant that more images appeared on the home screen for the participants, not just one image as in website "A" when participants were looking on the websites.

3.2 Description of the tasks given during the tests

In this section, presentation of the tasks follows the same order they were given to participants during the study.

All participants were required to read an information form and a consent form to participate in the research, which each participant signed voluntarily, prior to starting the research. Once informed, participants were given tasks related to answering research questions of the present research (questions presented in Chapter 4). Task 1, 2, 3 were given to participants in order. For both websites, the same tasks were given to each participant. Presentation of Task 1, 2, 3 can be seen in the following chapters.

3.2.1 Task 1 - Presentation of studies using the eye-tracking methodology

Task 1 was designed to help answer the research questions RQ1 and RQ2. To answer these questions eye-tracking was used. Participants were asked to look at the website of the bank (this was website "A" for the first 10 participants and website "B" for the second 10 participants) and explore the website freely, within a time limit of about 1 min. The text of Task 1 given to the participants for sounded like this (T1/1): *"Please explore the website freely"*. Once the discovery of the home screen of the website was performed, it was indicated through Tobii Studios. After this indication, the next task (Task 2) was answering the interview questions related to the website. The presentation of Task 2 follows.

3.2.2 Task 2 - Presentation of structured interviews

After eye-tracking examination of Task 1 was completed on one of the websites, interview questions were asked, to answer RQ3 research question. In Task 2, participants had to answer two interview questions. The text of the first question of Task 2 was T2/1 and sounded like this: *"Please answer the following question: which website are you on?"* After identification of the website by participants, the second interview question within Task 2 was T2/2: *"Thank you for identifying which website you were on. Based on what you have seen, how do you know which website you were on? (Which brand elements help you identify which website you were on?)"*. The purpose of Task 2 T2/1 and T2/2 questions were to make the eye tracking test result and the answers given to Task 2 interview questions comparable. This method reveals which visual brand identity element is attention-grabbing based on Task 1 and which visual brand identity element was important according to what the participant said based on the interview.

3.2.3 Task 3 - Presentation of the survey

After the interview (Task 2), a short survey (Task 3) was conducted to answer the RQ4 research question. The scale used for the questions in the survey was a 5-point Likert

scale. In the questionnaire, a Likert scale score "1" meant "strongly disagree", score "2" meant "somewhat disagree", score "3" meant "indifferent", score "4" meant "somewhat agree", and score "5" meant "strongly agree". The survey included the questions listed in order in the Appendix.

3.2.4 Demonstration of repetition of tasks

After Task 3 was completed by the participants, the examination of website "A" or "B" began by repeatedly completing Tasks 1, 2, and 3.

4 Results

The results provide a novel approach to the future design of visual brand identity elements. Additional insights are discovered about the visual brand identity elements that are attention-grabbing for Generation Z on the studied retail banking websites.

4.1 Task 1 results

The heatmap and gaze plot results of the aggregated eye movements of 20 participants of the eye-tracking tests are shown in Figs. 1, 2, 3, and 4. The results of website "A" are shown in Figs. 1–2. While the results of website "B" are shown in Figs. 3–4. In case of the heatmap results shown on the Figs. 1 and 3, the colour scale on the images indicates how much the given visual brand identity element aroused the participants.

The red colour indicates the visual brand identity elements that were fixated on by participants for the longest time. The yellow and green colours indicate the areas on which the fixation was for less time. First, results of

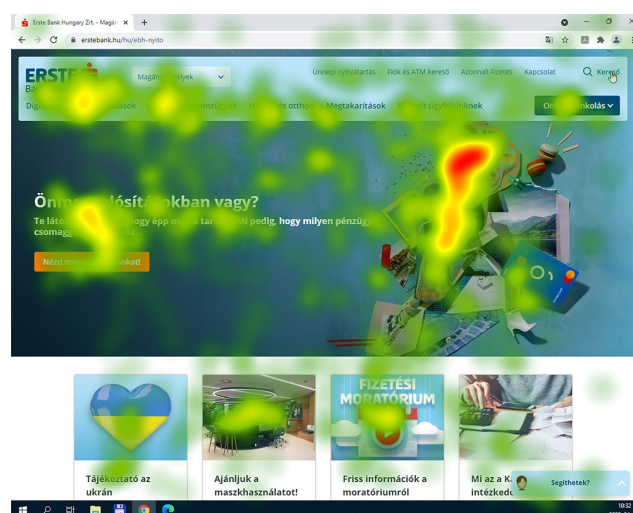


Fig. 1 The overall result of the heatmap eye-tracking visualisation of the website "A" - 20 participants; Source: Own results and editing

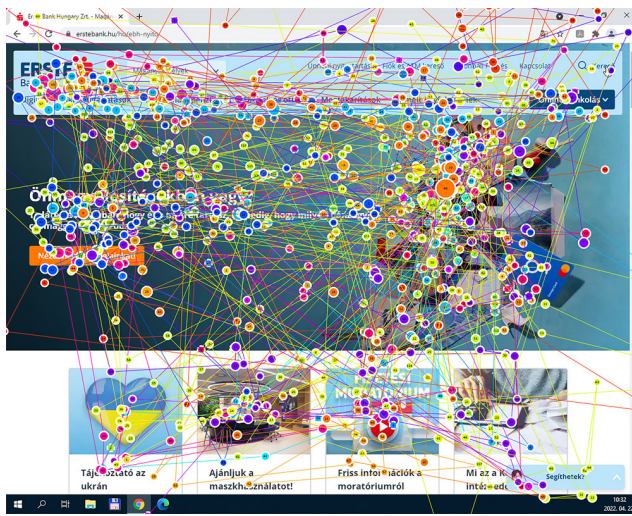


Fig. 2 The overall result of the gaze plot eye-tracking visualisation of the website "A" - 20 participants; Source: Own results and editing

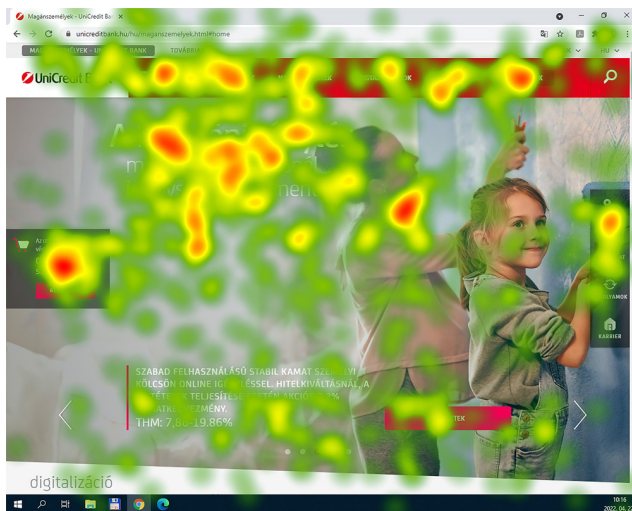


Fig. 3 The overall result of the heatmap eye-tracking visualisation of website "B" - 20 participants; Source: Own results and editing

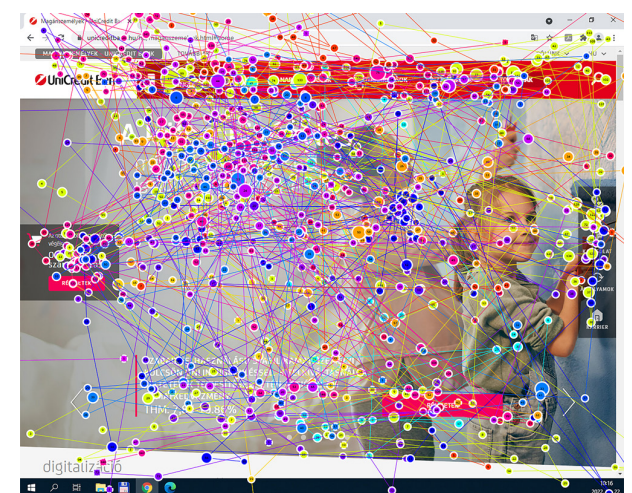


Fig. 4 Website "B" Gaze plot aggregated results of the eye-tracking examination - 20 participants; Source: Own results and editing

question RQ1 is presented below. Question RQ1 was the following question:

RQ1: Which visual brand identity elements attract consumers' attention on the online websites of the retail banking sector based on the eye-tracking study?

Based on Figs. 1 and 2, several visual brand identity elements were attention-grabbing for the participants. The eye-tracking recordings made with Tobii Studio, show (Figs. 1 and 2) that the most important element for the participants in case of website "A" was the *human face and shape* appearing on the website image, since based on the heatmap examination this area is red. Based on Figs. 1 and 2, the second most important visual brand identity element was the *slogan*. It can also be concluded that the *logo* and the *content* displayed on the navigation interface attracted the attention of the participants (Fig. 1 and 2). While on website "B" shown in Figs. 3 and 4, which screen images were moving images within the framework of a "slideshow", the *slogan* written in large letters was the most attention-grabbing for the participants. In addition, the *human figures* were attention grabbing as well but less intensity comparing with website "A". There were also numerous fixations on the *content* which were displayed on the navigation interface on the websites.

Next, the results related to research question RQ2 are presented. Question RQ2 reads like this:

RQ2: How do the moving elements on the examined websites influence consumers' attention to visual brand identity elements?

Summarising the eye-tracking results, it can be concluded that the *moving visual brand identity elements influenced the attention* of the participants. The moving visual brand identity elements (website "B") grabbing the attention of the participants towards the *textual content* (so, for example, more people fixated on the slogan than on the human figures). At the same time, in case of website "A", where there were no moving visual brand identity elements on the website, the *images* mattered more. On website "A" the *human figures* on the images were more attention-grabbing, and the *logo* also played an important role, compared to website "B" while this does not happen to a significant extent on the other website.

4.2 Results of the interview- Task 2

The research question Task 2 was the following:

RQ3: Which visual brand identity elements help consumers identify the brand on the investigated websites of the retail banking sector, based on the responses to the interview questions?

It can be concluded that the most attention-grabbing visual brand identity elements for both websites based on the participants eye-tracking movements were the *logo* and the characteristic *colour* defining the brand. It is important to note that there were participants who mentioned more visual brand identity elements. In case of the website "A" belonging to the Figs. 1 and 2, the *logo* was mentioned in 8 cases, the *colour* in 2 cases and *slogan* only in 1 case by the participants, meaning that the retail banking brand could be identified based on these visual brand identity elements. Meanwhile regarding website "B" belonging to Figs. 3–4, the *logo* was mentioned in 8 cases, the *colour* in 4 cases and the *slogan* in 4 cases by the participants, meaning that the identification of the brand was possible based on these visual brand identity elements.

4.3 Results of Task 3 – Survey

The research question of Task 3 was the following:

RQ4: Which visual brand identity elements help consumers identify the brand on the investigated websites of the retail banking sector, based on their responses to the Likert scale questionnaire? The results related to answering RQ4 are described below.

From the aggregated data set of the surveys, mean, frequency, median and standard deviation values were calculated. The aggregated results of the survey can be seen in Table 1.

Based on the results, it can be observed for both websites that the logo is the most important element for the participants. In case of the website "A" the logo, followed by colour, graphical illustrations and favicon were the most important visual brand identity elements for the participants (Table 1). While for website "B", the logo, followed by colour, content and favicon were the most important visual brand identity elements. On website "B", which contained moving images, the content plays a greater role, while on a website "A" with its non-moving images, graphical illustrations are important. Mann-Whitney tests were used to analyse if there is any difference between the importance of visual brand identity elements of the two websites. Although based on Table 1, there are small differences in the mean and median values of importance, they are not statistically significant: no significant differences were found ($p > 0.05$). It confirms that the most important elements are the logo, the colour, the slogan, and the content in both websites.

5 Discussion

The aim of the research was to identify visual brand identity elements that attract attention of Generation Z on Hungarian retail bank websites by applying several research

Table 1 Survey results after eye-tracking examination, of websites "A" and "B" based on 20 participants' answers

In terms of brand recognition, ... was important.	Average [-]	Frequency [%]	Median [-]	Standard deviation [-]
"A" website				
logo	4.4	88	5	0.88
colour	4	80	4	0.88
slogan	2.4	48	2.5	0.85
content	3.65	73	3.5	1.18
image (human shape)	3.05	61	3	1.22
typeface	2.75	55	3	1.23
graphical illustration	3.65	73	4	1.16
favicon	4	80	4	0.81
graphics icons	3.45	69	3.5	1.21
"B" website				
logo	3.95	79	4.5	1.27
colour	4.05	81	4	0.88
slogan	2.35	47	2	1.13
content	3.85	77	4	0.81
image (human shape)	2.7	54	3	1.12
typeface	2.9	58	3	1.20
graphical illustration	3.55	71	3.5	1.14
favicon	3.7	74	4	1.21
graphics icons	3.55	71	3.5	0.88

methodologies (eye-tracking tests, structured interviews, survey). The novelty of the research is that it examines the visual brand identity elements of retail banking websites appearing in Hungary among Generation Z using eye-tracking method. Based on the analysis of the results, the importance of several visual brand identity elements could be identified. The aggregated results of the visual brand identity elements with each testing method can be found in Table 2. Table 2 highlights the visual brand identity elements that were attention-grabbing for the participants based on the eye-tracking tests, and those that were said to be attention grabbing by the participants. During the interview and survey after the eye-tracking examination, based on Table 2, it can be established that two visual brand identity elements were attention-grabbing based on website "A". These two elements were the logo and the colour. In case of website "B", no such visual brand identity element can be identified. This means that on the website with a moving image, completely different visual brand identity elements caught the attention of the research participants than what was claimed by them after the eye-tracking

Table 2 The importance of the elements of visual brand identity based on the results of the tests applied in the research (eye-tracking examination, interview, survey) in connection with websites "A" and "B" ("The number of + signs is proportional to the strength of the importance of the examined visual brand identity elements." "+++" – extremely important, "++" – very important, "+" – important, "-" – not important)

In terms of brand recognition, ... was important.	Results of eye-tracking (RQ1, RQ2)	Results of interviews (RQ3)	Results of questioners (RQ4)
A website			
logo	+	+++	+++
colour	+	++	++
slogan	++	+	–
content	+	–	–
image (human shape)	+++	–	–
typeface	–	–	–
graphics illustration	–	–	++
favicon	–	–	++
graphics icons	–	–	–
B website			
logo	–	+++	+++
colour	–	++	++
slogan	+++	++	–
content	+	–	++
image (human shape)	++	–	–
typeface	–	–	–
graphics illustration	–	–	–
favicon	–	–	++
graphics icons	–	–	–

tests. Instrumental examinations highlight the slogan, while the results of interviews and survey emphasise the logo and colour as of primary importance.

When interpreting and summarising the test methods together the survey and interview results support and complement the eye-tracking results: the most important elements are the logo, the colour, the human figure, and the slogan. Regarding RQ1, the eye-tracking study revealed that the human figure attracted the most attention. This finding is congruent with earlier research: Luo et al. (2006) focused on characters displayed on screens in online environments. Their research found that human-like characters were perceived as more likable, suitable, and generally more trustworthy than non-human characters on the screen. More recently,

Delen and Ilter, (2021) investigated the impact of human images in advertisements on consumer attention. Their findings showed that the use of human images in product advertisements shortened the time to the first fixation. Meanwhile, Rybaczewska et al. (2020) used in-depth interview methodology with university students to examine the impact of slogans on students' brand awareness and purchasing behaviour. The results of the study indicate that appropriate and memorable slogans enhance product differentiation and sales. This study aligns with previous literature, as the human figure and slogan were one of the visual elements that most captured the participants' attention in the present research. From the aggregated results of Table 2 in connection with RQ2 research question, the conclusion can be drawn that the moving visual brand identity elements on the websites influence viewers' attention, because the individual participants fixated on other visual brand identity elements in the case of websites that do not contain moving visual brand identity elements than those which contain moving visual brand identity elements (images). This finding also aligns with an earlier, similar study. Cheung et al. (2017) conducted an eye-tracking study to monitor consumers' visual attention in an online setting. Their findings indicate that a product element using animation increased visual attention to all elements of the webpage, suggesting that the number of attentional resources expands when a webpage contains animation. On a website without a moving visual brand identity element (image), the logo, colour, and human figure, while on a website with a visual brand identity element moving (image), the slogan, and based on the interviews and survey questions, even the logo and colour were extremely important or very important visual brand identity elements. For RQ3 and RQ4, the logo on both websites was the most helpful element for participants in identifying the brand. In Ward et al. (2020)'s earlier study, which analysed the results of 1281 market tests across 13 consumer packaged goods categories from 19 countries, it was found that logos, emblems, and characters had the greatest potential for unique brand ownership based on the Competitive Intensity metric. Therefore, this findings of the research questions RQ1, RQ3 and RQ4 present study are consistent with Ward et al. (2020)'s earlier research. The theoretical significance of the study lies in the fact that the examination of visual brand identity elements relates to previous, foundational theoretical models of brand identity within the field of marketing. These results are connected to Aaker's (1996) "symbol element", de Chernatony (1999)'s,

and Harris and de Chernatony, (2001)'s "presentation" element, Kapferer (2012)'s "physical" element, Bravo et. al. (2012)'s visual identity dimensions and the approach of Melewar et al. (2001) and van den Bosch (2005). We believe that these ideas have the potential to offer further research directions for the creation of an online brand identity model.

6 Conclusion and further research direction

This research examined the effects of visual brand identity elements on the attention of two Hungarian retail banking websites in the online space among Generation Z, as well as the role played by the brand in recognisability. For the retail banking sector and financial actors, this study highlights and

draws attention to the visual brand identity elements that are important to participants in the planning of innovative brand-building processes with eye-tracking method, interview and with a questionnaire. This research helps to understand the attention of young consumers, which could contribute to the creation of more appealing and user-friendly retail websites and to the planning of innovative branding processes by helping to understand the characteristics of young consumers' attention. It may also contribute to the creation of more user-friendly and preferred retail websites that can support for competitiveness of banks. As a further research direction, it could be interesting to conduct the study with non-Hungarian participants, participants outside Generation Z, or in other sectors besides banking.

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Appendix

Table A1 Task 3. Questionnaire

1. The logo was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
2. The color was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
3. The slogan was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
4. The content was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
5. The image was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
6. The font was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5

Table A1 Task 3. Questionnaire (continued)

7. The graphical illustration was important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
8. The favicon was important to me in terms of brand recognition. (A favicon is the image that appears at the top of your browser window, next to the title of your website.)				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	5
9. Graphical icons were important to me in terms of brand recognition.				
I strongly disagree	I disagree	Indifferent to me	I agree	I strongly agree
1	2	3	4	4