

9. DEVELOPMENT OF THE MODEL AND TECHNOLOGY FOR UNIVERSITY BRAND FORMATION AND THE SPECIFICS OF BRAND INTERACTION BETWEEN THE UNIVERSITY AND ITS STRUCTURAL UNITS

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Introduction In the contemporary digital era, institutions of higher education are confronted with escalating competition for students, faculty members, and financial resources. This competition is precipitated by globalizing trends and the demands of the creative economy. In the contemporary higher education landscape, the development of a robust digital brand has become imperative for institutions to maintain their competitiveness and foster innovation. The marketization of higher education necessitates those institutions market themselves as businesses, differentiating their identity to attract stakeholders. The efficacy of branding can exert a significant influence on consumer decision-making processes, particularly in the context of student choice, thereby contributing to an enhancement in perceived value. Furthermore, in the digital realm, branding encompasses visual identity, online presence, and reputation management [1, c.56]. A university's brand, when articulated with clarity and compelling persuasiveness, has the capacity to engender profound loyalty among its student body and alumni. Furthermore, it can serve to enhance the institution's international visibility and communicate its innovative capacity. These factors are of paramount importance in the contemporary landscape of the creative economy and the ongoing digital transformation of education. Consequently, the development of a robust model for university brand formation, and the understanding of how a university's central brand interacts with its structural units (faculties, institutes, departments), is both theoretically relevant and practically necessary to bolster competitiveness and drive innovation in higher education.

This chapter explores the concept of university branding through a digital lens. First, we establish a theoretical framework on brand architecture models (umbrella brands, endorsed brands, individual brands) and how sub-branding applies in higher education. In the subsequent phase of the study, a comprehensive analysis of the practical digital branding approaches adopted by nine Ukrainian polytechnic universities was conducted. These institutions, located in major cities such as Kyiv, Lviv, Kharkiv, Dnipro, Poltava, Zaporizhzhia, Odessa, Zhytomyr, and Chernihiv, were examined with a focus on the establishment and expression of their respective faculty identities, their online and social media presence, and the behaviors exhibited by their sub-brands. We then propose an original model of brand interaction between a university and its sub-units, including a visual scheme and methodological basis with measurable parameters. The paper introduces an author-developed Brand

Value/Vitality Index (BVI) to quantify brand interaction outcomes, accompanied by sample calculations and interpretation. In conclusion, we hereby present our findings and offer recommendations for Eastern European universities seeking to fortify their brand architecture within the ambit of the creative economy and the digital realm.

This chapter makes a significant contribution to the academic field by integrating branding theory with digital practices in higher education. It presents a novel model and index for brand interaction, offering a novel approach to understanding and measuring brand engagement in digital environments. The present study aligns with the overarching theme of the creative economy and the role of information technology (IT) by highlighting how digital transformation enables innovative branding strategies for universities. The findings and models herein can assist universities in strategically managing their brand and sub-brands to enhance reputation, cohesion, and competitive advantage in a rapidly evolving digital landscape.

Literature Review. Brand architecture is defined as the organizational structure of brands within an institution's overall brand strategy. According to the classic brand architecture theory (Aaker & Joachimsthaler, 2000), a spectrum exists ranging from the "branded house" (one unified master brand) to the "house of brands" (a collection of independent brands). Hybrid strategies, such as endorsed brands and sub-brands, are also employed. It is imperative for universities to comprehend these models, as they frequently possess intricate structures comprised of various faculties and programs. In the following section, we delineate the fundamental models of brand architecture and their correlation to academic institutions [2, c.79]:

- **Branded House (Umbrella Brand):** A single master brand is employed, encompassing all product offerings. All subordinate units are required to align with the name, visual identity, and values of the central institution. This monolithic approach ensures a consistent look, feel, and message across the university. For instance, a university implementing a branded house strategy will necessitate that each faculty and campus prominently feature the university name and logo in their communications. The primary benefit of this approach is the enhancement of clarity and synergy. The consolidation of a robust brand identity across all components of the institution serves to optimize brand equity and recognition, thereby creating a cohesive and unified identity. This efficiency is of critical importance in higher education, where marketing resources are often limited. However, the implementation of a pure branded house within academic institutions poses significant challenges. This is due to the fact that universities possess diverse missions and a long-standing tradition of autonomous departments. The implementation of centralized control may present challenges when attempting to align with the established academic culture. In the event that the central brand experiences a decline in its reputation, it is plausible that this negative impact could extend to all subordinate units.

- **House of Brands (Individual Brands):** Each constituent element, such as a faculty or a school, possesses a distinct brand identity, frequently characterized by its own unique name and minimal visible connection to the overarching institution. From a corporate perspective, this phenomenon can be likened to the operation of independent product brands under the umbrella of a holding company. Within the

context of a university, the term "house of brands" may refer to a business school, an engineering college, or a humanities faculty. Each of these units projects a distinct brand, with minimal reference to the overarching university identity. This phenomenon can emerge from a historical perspective, particularly in professional schools such as law and medicine, which have established prominent reputations over time. The advantage of this approach is that it allows each unit to customize its image to suit its target audience and market niche. However, this approach entails relinquishing the endorsement and shared equity associated with the university's name, a move that could potentially lead to fragmentation and inefficiencies in marketing strategies. The maintenance of wholly distinct brands is a costly endeavor, with the potential to dilute the overarching institutional identity.

- **Endorsed Brands:** This is an intermediate model in which sub-brands maintain distinct identities while being endorsed by the parent brand, thereby acquiring credibility. Typically, the sub-unit's name is presented "with" or "by" the university. For instance, one might consider the designation "ABC Faculty of XYZ University" or a college logo that incorporates the university's crest. Endorsed branding serves to communicate to the public that, while the faculty possesses its own distinct image or specialization, it is nevertheless committed to upholding the standards and quality that are characteristic of the parent university. In practice, many universities adopt this approach: a faculty might have its own logo or slogan, but always in tandem with the university's brand marks. This approach strikes a balance between the promotion of differentiation and the leveraging of the umbrella brand's reputation. Endorsed brands benefit from the university's legitimacy; however, if taken too far, there is a possibility that inconsistent visuals or messages could result.

- **Sub-Brands:** Sub-brands are frequently regarded as a form of variation from the master brand. These sub-brands are distinguished by their unique descriptors, which are appended to the master brand name. Within the context of higher education, this phenomenon can be exemplified by the practice of designating each academic department with the name of the institution, thereby integrating the university's identity into the department's brand identity. A notable illustration of this phenomenon can be observed in "Tech University Business School," a department that incorporates the university's name into its brand identity. Sub-brands tend to exhibit congruence with the core values and visual style of the overarching master brand. This approach serves to reinforce the master brand while allowing for a certain degree of distinction in sub-unit communication. In "branded house" universities, it is a common practice to recognize sub-units for pragmatic reasons [2, c.79].

In the context of higher education, pure models are seldom employed; rather, universities predominantly utilize a combination of approaches. A university might present a unified image externally (i.e., a "branded house") while allowing internal units some branding latitude (i.e., endorsed or sub-brands). The extant literature indicates that a branded house strategy is generally preferable for universities to build a strong, coherent reputation. This approach enhances clarity for stakeholders, ensuring that students have a clear understanding of the university brand they are affiliated with,

even within the context of specific colleges or faculties. However, attaining complete harmonization is challenging due to inherent internal complexities.

It is important to note that internal branding plays a role in this regard. It is critical for academic institutions to align faculty and staff with the institutional brand, thereby ensuring consistency. Leijerholt et al. (2019) conducted research on public sector branding, which indicated that branding is important not only for the organization as a whole but also for individual departments. The study found that allowing sub-units to manage aspects of their own brand—with guidance from central structures—can yield a strong overall brand commitment [4, c. 43]. In essence, the success of universities may be contingent upon the allocation of a portion of branding ownership to faculties, thereby reflecting their distinct strengths and engaging employees. This approach would necessitate the alignment of branding with a overarching brand strategy. This integrated approach to brand architecture has the potential to foster both a unified reputation and enthusiastic buy-in at the faculty level.

The contemporary trend in higher education is toward greater brand harmonization, as institutions recognize the necessity to present a clear, consistent identity in a global market. Nevertheless, flexibility remains imperative to accommodate the multifaceted nature of academic disciplines and the varied interests of stakeholders within the university. The subsequent sections will examine how these models manifest in practice among Ukrainian polytechnic universities, and how digital platforms serve as the arena for brand expression and interaction between university centres and their structural units.

Results. In order to establish a foundation for further analysis, the present study examines nine prominent Ukrainian polytechnic universities and the manner in which their central brands and faculty-level sub-brands interact within the digital domain. The institutions in question are the following: Igor Sikorsky Kyiv Polytechnic Institute (KPI), Lviv Polytechnic National University, National Technical University "Kharkiv Polytechnic Institute", National Technical University "Dnipro Polytechnic" (Dnipro University of Technology), Yuri Kondratyuk Poltava Polytechnic, Zaporizhzhia Polytechnic National University, Odesa (Odessa) Polytechnic National University, Zhytomyr Polytechnic State University, and Chernihiv Polytechnic National University. These institutions have been identified as being among the leading technical universities in Ukraine. In recent years, all of these institutions have undergone significant branding and rebranding, particularly in the context of Ukraine's integration into the European Higher Education Area. As illustrated in Table 1, a synthesis of salient elements pertaining to their digital brand identities is presented. This encompasses the implementation of a cohesive visual style, delineated by brand books, and the existence of faculty-specific web and social media identities.

Table 1.

Digital Branding Characteristics of Selected Ukrainian Polytechnic

University (City)	Unified Brand Style (Brandbook)	Faculty Web/Social Media Presence (Sub-brands)
KPI (Kyiv)	Yes – Official brandbook adopted 2019; strong central brand enforced.	Faculties/institutes largely use central website (sections under KPI site) and unified design. Some have sub-sites (often as *.kpi.ua) following brand guidelines. Active faculty social media groups exist but co-brand with KPI.
Lviv Polytechnic	Yes – Longstanding unified visual identity (historic crest, consistent logo) in use; brand considered an image of region.	Faculties (called Institutes) listed on main site; they use central web templates. Social media: main university pages + some institute pages that align with Lviv Polytechnic branding.
Kharkiv Poly (NTU “KhPI”)	Partial – Branding efforts noted (research on university brand by faculty), but historically faculties had autonomy. No widely publicized single brandbook.	Faculties have separate pages and some legacy logos, but recent initiatives encourage using the university’s colors/logos. Some faculty social media pages highlight their own name, with “KhPI” endorsement.
Dnipro Polytechnic	Partial – Renamed from Mining Univ. in 2017, embracing “Polytechnic” identity. Likely developing unified style.	Main website used for all, with modern design; some faculties or programs on subdomains. Social media primarily via central accounts, with few program-specific pages.
Poltava Polytechnic	Yes – Rebranded in 2019 (name change to “Polytechnic”) with new positioning. Modern logo and style introduced.	Institutes and faculties are integrated under main site (sections for each institute). Social media: central pages plus occasional faculty-specific groups, all referencing Poltava Polytech.
Zaporizhzhia Polytechnic	Yes – Recent name change (formerly Zaporizhzhia Technical Univ.), adopting unified “Polytechnic” branding.	Centralized web presence (zp.edu.ua) with faculty pages. Some older faculty sites/domains being phased out. Official social media is central; faculty news funneled through main channels.
Odesa Polytechnic	Yes/Partial – Updated branding (now “Odesa Polytechnic” in English) with attempts at unified style on op.edu.ua.	Faculties mostly under main site structure. A few independent faculty pages exist but are being unified. Active social media mainly via official university accounts; some faculty Facebook pages exist with modest followings.
Zhytomyr Polytechnic	Yes – Renamed to Polytechnic in 2019, introducing new logo and identity. Brandbook likely in use (state university status).	Single official website (ztu.edu.ua renamed) covering all faculties. Social media centralized (university Facebook/Instagram), with minimal separate faculty branding online.

Chernihiv Polytechnic	Yes – Established brandbook/logos (website has a “Brandbook, logos, emblems” section) after 2019 rename.	Central website for all faculties; unified visual style. Some departments maintain Facebook pages, but all carry the university name. The central brand is strongly promoted across digital channels.
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Sources: University official websites and press releases; e.g., Poltava Polytechnic name change order, Chernihiv Polytechnic history, KPI brandbook introduction [7,8,9,10,12,13,14,15].

As demonstrated in Table 1, a discernible trend has emerged: the majority of Ukrainian polytechnic universities have adopted a unified or endorsed brand architecture in the past decade. In the aftermath of these events, numerous institutions underwent official renaming to include "Polytechnic," and seized that moment to refresh their logos, websites, and brand materials. For instance, Poltava's transition from a technical university to Poltava Polytechnic in 2019 was not merely nominal; it was accompanied by a repositioning of the university as a multidisciplinary European-style institution with a new identity. Concurrently, Chernihiv and Zhytomyr adopted the "Polytechnic" designation circa 2019–2020, signifying a nationwide branding alignment (and distancing from Soviet-era nomenclature). These changes were often accompanied by the introduction of new visual identities and brandbooks. In 2019, KPI (Kyiv) — Ukraine's largest technical university — introduced a comprehensive brandbook, which standardized elements including logos and color palettes across various departments. The KPI brandbook underscores the importance of uniform utilization of visual symbols, a principle that is being methodically implemented across all subordinate divisions. This implementation signifies a top-down enforcement of a unified brand identity, reflecting a deliberate and systematic approach to brand management [4, c.78]t.

The digital identities of faculties in these universities reveal varying degrees of sub-brand autonomy. In some cases, academic departments or institutes maintain separate legacy websites or social media pages that feature their own logos or styles. This practice can be seen as a remnant of a more decentralized past. For instance, within the confines of the former paradigm, it was not infrequent for each faculty to possess a distinct emblem or website design. However, the prevailing direction in higher education is toward integration: many universities now provide official web templates or sub-sites for faculties under the main domain. For example, Lviv Polytechnic's centralized site for its institutes and Poltava Polytechnic's site listing all institutes under a unified menu are indicative of this trend.

This approach ensures that prospective students or partners encounter a consistent brand impression when navigating the faculty pages, as it maintains uniformity in headers, colors, navigation structure, and other design elements. The realm of social media has emerged as an additional domain for brand interaction. Typically, the central university operates official accounts on prominent social media platforms such as Facebook, Instagram, YouTube, and Telegram. These accounts serve as a conduit for disseminating information about the university, including news,

achievements, and content showcasing student life. In addition, many faculties maintain their own Facebook pages or groups, which serve as a means to disseminate targeted information, such as details regarding specific events or departmental news. It is noteworthy that these faculty social media profiles typically identify themselves explicitly as part of the university, often using the university's name or visuals, thereby indicating an endorsed brand relationship.

A notable challenge pertains to maintaining a consistent visual identity across various social media platforms. While official university web pages adhere strictly to approved logos and graphic style, faculty-run pages sometimes deviate from these standards by using unofficial symbols or styles. This deviation is especially likely to occur if brand guidelines are newly introduced and not yet fully enforced. The KPI brand communications team has engaged in proactive collaboration with various subdivisions to ensure compliance, providing templates for social media posts and guidelines for logo usage. The KPI brand portal is an informative resource that illustrates the implementation of the official style in materials produced by various organizational subdivisions, including departments and centers. This suggests a concerted initiative to align the brand's digital presence across all units. In a similar vein, the website of Chernihiv Polytechnic, which offers logo downloads and branding guidelines, suggests that academic departments are expected to adhere to a uniform standard [5, c.11].

An additional aspect that merits consideration is the manner in which sub-brands "behave" in relation to the central brand with respect to content and tone. A central question in this study is whether faculties promote their own identity at the expense of the university's, or whether they reinforce the university's brand in their communications. In the present analysis, it was determined that the majority of faculty websites prominently display the university's name and emblem alongside the faculty name, indicating an endorsed brand structure. For instance, the websites of Lviv Polytechnic's institutes feature uniform banners that incorporate the Lviv Polytechnic logo and the institute's name, visually conveying the institute's integral role within the Lviv Polytechnic academic community. In the context of social media, faculty pages frequently engage in the practice of sharing or reposting content from the primary university account [7].

This activity serves to extend and reinforce the central brand message, often disseminating significant announcements or achievements. Conversely, the primary university accounts frequently celebrate faculty-specific achievements, such as research breakthroughs in Faculty X or student competition winners in Faculty Y. This practice serves to acknowledge and promote sub-brands within the institution. This symbiotic relationship is a positive example of brand interaction, in which the central brand provides a distinguished platform for faculties, and the faculties' achievements contribute to the university's overall reputation.

However, instances of brand tension have also been observed. A faculty with a robust sense of identity or established external partnerships may, on occasion, strategically downplay the university affiliation in select materials to enhance its visibility. For instance, a technology faculty engaged in collaboration with an IT

company might employ a project logo with greater prominence than the university logo. Such instances must be addressed through the implementation of clear policies and the execution of internal branding initiatives. This approach ensures that even innovative sub-unit initiatives remain aligned with the overarching narrative of the university brand. The survey of Ukrainian polytechnics indicates that university leadership is becoming increasingly cognizant of brand coherence issues. Many of these institutions have established dedicated public relations (PR) or communications departments (often with "Media and Branding" offices, as at KPI) that oversee both central and faculty-level communications to ensure alignment. Ukrainian polytechnic universities are transitioning towards umbrella or endorsed branding models, leveraging digital tools such as websites, social media, and brand portals to streamline their image [5 c.43].

Faculties function as sub-brands that typically incorporate the parent brand online, albeit with a degree of autonomy in content. The variation in branding strategies is evident in the extent to which the central visual identity is implemented, ranging from websites that are fully centralized to those that are partially independent faculty pages. Additionally, the degree to which sub-brands collaborate with the university on social media platforms is indicative of their branding strategies. As illustrated in Table 1, these disparities are indicative of a broader trend toward enhanced brand consistency across various levels, propelled by competitive pressures and the aspiration to project a robust, unified institutional brand on the global stage.

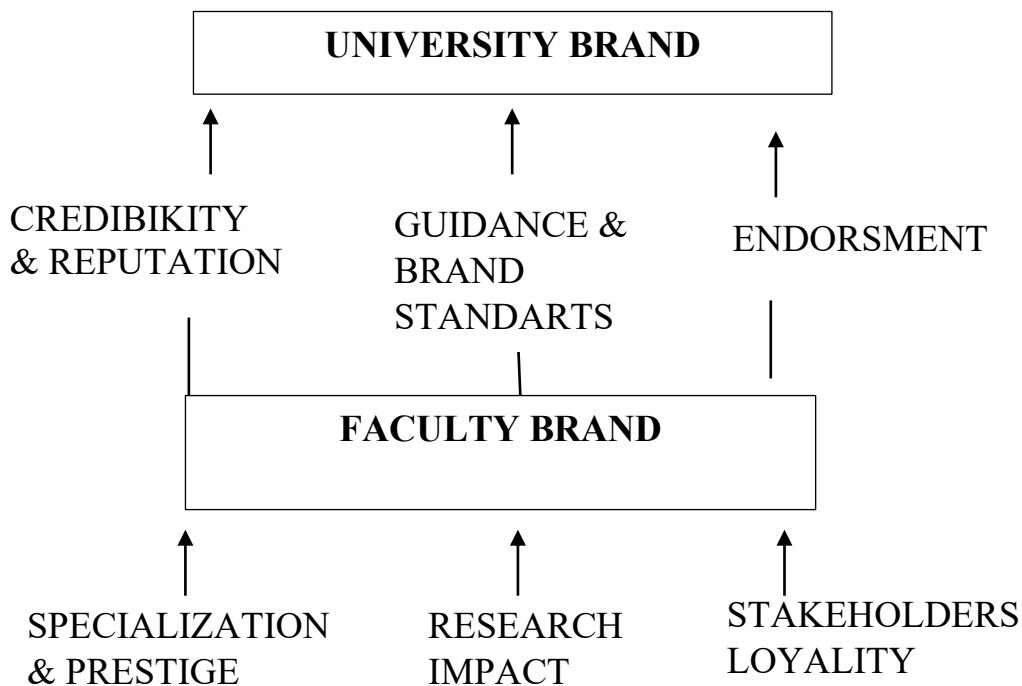


Figure 1. University–Faculty Brand Interaction Model.
Source: Developed by the author)

Utilizing the aforementioned theoretical and practical insights, we propose a novel model that illustrates the brand interaction between a university and its structural units (faculties/institutes). The model posits that the university and its faculties engage in a symbiotic branding relationship, characterized by a reciprocal relationship that is both two-way and symbiotic. The model is predicated on the following elements: The concept of "umbrella brand influence" refers to the strategic direction, identity, and reputation that emanate from the central university and extend to its faculties. In contrast, "sub-brand contribution" denotes the unique achievements, niche reputations, and stakeholder engagement that flow from each faculty back to enhance the overall university brand. Figure 1 presents a schematic representation of this interaction.

The methodological basis of this model is predicated on the notion that effective brand architecture is not a one-time structural decision but rather an ongoing interaction process. The measurable parameters for such interaction can include:

- **Visual Identity Alignment:** The extent to which communications at the faculty level adhere to the university's brand guidelines is measured by compliance audits or content analysis of websites and social media for correct logo use, colors, and slogans. Conversely, high alignment signifies a robust top-down influence by the umbrella brand.

- **Brand Endorsement Frequency:** The frequency with which faculties mention or display the university name in their outreach activities, such as the number of instances of co-branding in press releases or event posters, is a subject of interest. This phenomenon is indicative of the extent of brand endorsement.

- The present study will examine the reputation contribution. The following metrics will be used to assess the faculty's contributions to the institution's overall brand equity. For instance, the university's prestige is elevated by the accomplishments of its faculty members, such as the procurement of significant research grants. The subsequent media coverage, whether in traditional outlets or digital platforms, serves to further disseminate the university's achievements. Surveys can also be used to assess whether stakeholders associate particular faculty strengths with the university's brand. For instance, respondents may be asked to indicate whether they believe "X University is known for its Faculty of IT excellence."

- **Stakeholder Engagement:** The assessment of engagement on faculty versus central social media (i.e., followers, likes, shares) can serve as an indicator of how sub-brands attract audiences and whether those audiences overlap with or broaden the main brand's audience. A faculty page that extensively shares university content may demonstrate robust integration, whereas the presence of entirely separate follower bases could suggest the presence of siloed sub-brands.

- **Brand Perception Consistency:** The implementation of surveys serves as a method to assess whether students and staff possess a congruent comprehension of the brand values across various faculties. If each faculty's community portrays the university's image in a divergent manner, the interaction may be deficient or misaligned [6, c.32].

The model posits that optimal brand interaction occurs when there is high alignment on visual and messaging fronts, coupled with strong contributions of distinct

value from each faculty. Faculties are tasked with the responsibility of serving as brand amplifiers, a role that entails the extension of the university's core brand promise through the addition of specific evidence that supports it. To illustrate this concept, consider the case of a highly regarded engineering faculty at a technology-focused university. This faculty serves to reinforce the institution's claim to innovation in the field of engineering, thereby amplifying the impact of the university's brand promise. Conversely, the university brand functions as a unifying entity, providing each faculty with a credible platform and enhanced visibility that would otherwise be unattainable. This phenomenon of interdependence is illustrated by the two-way arrows in Figure 1.

A potential pitfall in brand interaction is when a sub-brand overshadows or diverges from the parent brand. The model underscores the significance of feedback mechanisms, proposing that universities establish mechanisms to oversee sub-brand communications. These mechanisms can be implemented through branding committees or designated liaisons within each faculty. The model further suggests that universities provide support or correction as necessary to ensure the integrity of sub-brand communications. Additionally, the model emphasizes the importance of faculty representation in university marketing strategy discussions. This representation is crucial to ensure that the needs and identities of faculties are adequately addressed and respected. This participatory approach is congruent with the concept of achieving a balance between "freedom and order" in the realm of corporate branding. It enables creativity at the sub-unit level while ensuring the maintenance of overall order under the overarching corporate (university) brand [6, c.183].

To operationalize this model, academic institutions may consider implementing a series of measures, including but not limited to: the mandatory implementation of co-branding on all public materials, regular brand training for faculty communicators, and the establishment of shared platforms (e.g., a unified web content management system and social media guidelines). Concurrently, academic departments can be incentivized to cultivate distinctive brand value propositions. For instance, one department might proffer the distinction of being "the nation's preeminent institution in aerospace engineering education," a claim that subsequently reinforces the university's overarching brand narrative of technological eminence. The interaction model, therefore, also possesses a technology dimension ("technology for brand formation," as indicated in the chapter title). Contemporary information technology tools, such as content management systems, social media dashboards, and analytics, facilitate the coordination of brand messaging and the measurement of alignment in real time. The implementation of a unified digital platform has the potential to streamline brand interactions by enabling central PR teams to oversee faculty pages and provide templated content .

The objective of this study is to evaluate the strength and effectiveness of the brand interaction model. To this end, an original Brand Value Index (BVI) has been proposed, with modifications to suit the unique characteristics of universities and their structural units. The BVI is a composite indicator designed to measure a university's brand performance with consideration of its sub-brand contributions in the digital sphere. It extends the concept of brand equity (the value derived from brand recognition

and reputation) by incorporating factors relevant to a multi-unit academic institution [5, c.76].

Definition: The Brand Value Index (BVI) is a unitless score (on a scale of 0 to 100, for example) that encapsulates key dimensions of brand strength and alignment for a university and its faculties. A higher BVI is indicative of a more cohesive and robust brand presence.

Components of BVI: The present study proposes a methodology for calculating BVI, which is predicated on the normalization of several measurable components to a common scale. The following components may be considered:

- The metrics of visibility and reach encompass the combined web traffic and social media reach of the university and faculty pages, with the incorporation of appropriate weighting metrics. This captures how visible the brand is to stakeholders online. The component in question would be rendered more prominent by high traffic and follower counts.

- The consistency score is a quantitative metric that quantifies the degree to which the branding guidelines have been adhered to. It is calculated using the results of a compliance audit, which measures the percentage of faculty sites that adhere to the guidelines and the percentage of materials that are co-branded correctly. Achieving 100% consistency in this component would optimize its performance.

- The following measures have been identified as pertinent to the assessment of engagement and loyalty: engagement rates on official channels, alumni followership, satisfaction surveys regarding brand image. A strong level of engagement indicates that the brand is successfully resonating with its consumers, thereby contributing to its perceived value.

- The concept of reputation and influence encompasses a variety of factors, including university rankings and external reputation surveys, which often serve as indicators of brand strength. Additionally, media mentions and the presence of sub-brands in notable collaborations or networks are also significant factors in determining reputation and influence. The university's reputation and prestige are enhanced when its faculties are recognized with awards or grants, particularly if these achievements are publicized under the university's name.

- **Innovation and Differentiation:** This component is of a more qualitative nature and may be evaluated through the use of expert assessment. It reflects the distinctive and innovative nature of the brand. For this component, the question is posed: does the university have a clear brand story that stands out, supported by its faculties' unique profiles? In a creative economy context, brands that signal innovation are more valuable.

The precise formula can be refined, but an illustrative computation might be [3, c.43]:

$$BVI = \omega_1 \times Visibility + \omega_2 \times Consistency + \omega_3 \times Engagement + \omega_4 \times Reputation + \omega_5 \times Innovation, \quad (1)$$

where ω_i - weights that sum to 1 (assigned based on strategic priorities or statistical calibration).

For example, a university might decide consistency is very important (assign a higher weight to that), or if it is trying to increase international visibility, it might weight visibility more.

To demonstrate, we applied a simplified BVI model to the nine Ukrainian polytechnics using available digital metrics (hypothetical data for illustration). We considered each university’s social media followers, website ranking (traffic), observed branding consistency (qualitatively scored), and recent visibility in news or rankings. The resulting BVI scores (0–100 scale) are plotted in Figure 2.

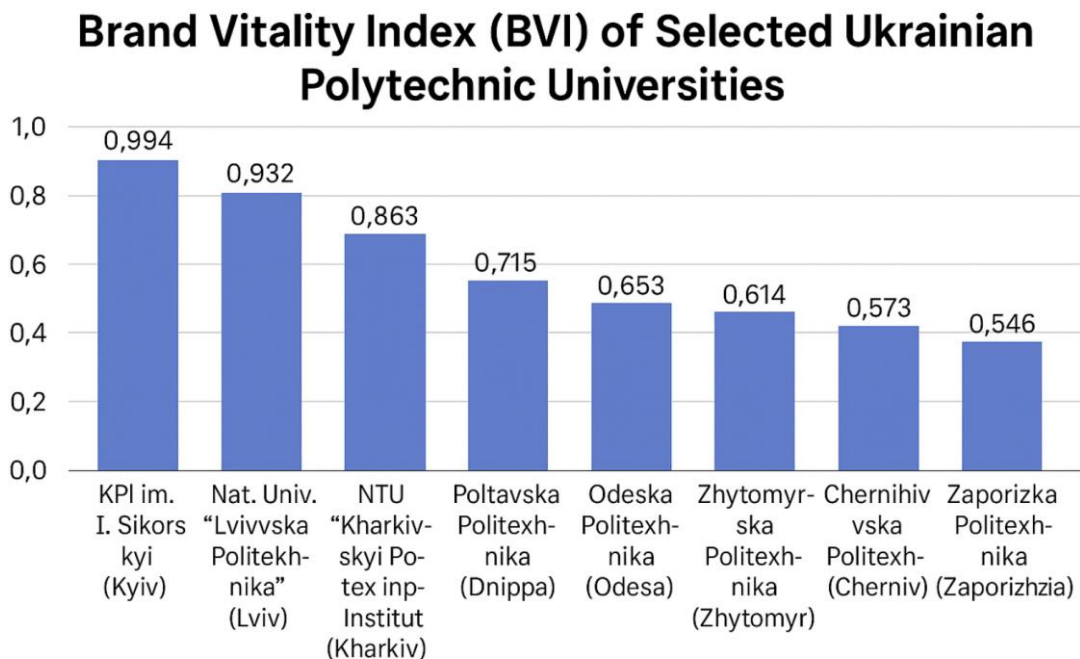


Figure 2. Brand Vitality Index (BVI) of Selected Ukrainian Polytechnic Universities. This chart illustrates a hypothetical BVI calculation for nine universities, combining digital visibility, brand consistency, and reputation indicators. Higher BVI indicates a stronger and more cohesive brand.

Source: Author’s analysis and illustration

As illustrated in Figure 2, KPI (Kyiv) and Lviv Polytechnic achieve the highest scores on the BVI (around 90+), indicative of their extensive visibility (large follower counts, high web traffic) and robust unified branding (both possess well-implemented brand guidelines). Kharkiv Polytech follows with a slightly lower score, perhaps due to slightly less centralization of brand, but still a significant national presence. The remaining teams in the top half include Dnipro, Odessa, Zaporizhzhia, and Poltava Polytechnics, which have a BVI in the 70s. These teams have adequate visibility and are demonstrating improvements in consistency following their rebranding efforts. It is plausible that Zhytomyr and Chernihiv Polytechnic may attain lower scores, potentially in the 60s, primarily due to their comparatively limited online presence, which is characterized by a smaller reach and a smaller number of followers. Despite

this potential limitation, both institutions have demonstrated consistent performance. Notably, their brand value has been on the rise, largely attributable to their recent unification under the unified "polytechnic" identity.

It is imperative to acknowledge that these figures are hypothetical in nature and serve merely to illustrate the concept; in a genuine study, concrete data would be collected (e.g., website analytics, social media statistics, survey results) to calculate BVI. The index offers a unifying metric for longitudinal tracking and inter-institutional comparison. Its primary function, however, lies in the identification of components that are not performing optimally. For instance, if a university has high visibility but low consistency, the BVI will reveal that, and management can act (by reinforcing brand guidelines in faculties). Conversely, when consistency is high but visibility is low, marketing efforts can be intensified to increase reach.

A rising BVI for a university is indicative of successful brand development, as it signifies heightened stakeholder awareness of the brand and the consistent delivery of its message. If academic departments initiate new programs or achievements and incorporate them into the university's overarching narrative, the BVI should witness an augmentation. A declining BVI may be indicative of brand dilution, potentially resulting from a multitude of sub-brand messages that lack cohesion. Alternatively, it could signal a decline in stakeholder engagement, indicating a waning interest among relevant parties. Consequently, university leadership could incorporate BVI into their strategic KPIs (key performance indicators), aligning it with strategic goals such as internationalization (which would reflect in visibility and reputation components) or internal culture building (reflected in consistency and engagement).

The utilization of BVI in Eastern European universities can offer a particularly valuable perspective, as many of these institutions are currently undergoing processes of active rebranding and digital transformation. For instance, a university that has recently undergone a merger or an expansion of its academic departments—a common occurrence in Ukraine's educational reforms—can utilize BVI to ensure that the newly formed institution establishes a cohesive brand identity, rather than a fragmented amalgamation of its previous identities. Consequently, as academic institutions in the region endeavor to enhance their international student populations, BVI can leverage its digital brand presence to demonstrate its global reach and strength.

Conclusions: In the contemporary creative economy and digital age, the role of university branding has undergone a significant transformation, transitioning from a marginal consideration to a critical component of strategic planning. This chapter examined the development of university brands and the management of interplay between the central institution and its faculties (structural units) at polytechnic universities in Ukraine. The present study found that digital platforms are pivotal in facilitating a cohesive brand identity. Official websites, social media, and online content serve as touchpoints through which brand identity is expressed and must be coordinated. Theoretically, universities benefit from an umbrella (branded house) brand architecture for clarity and strength. However, practical considerations often necessitate an endorsed or hybrid approach that empowers faculties while maintaining unity. The cases of Ukrainian polytechnics exemplify a discernible shift toward

consolidated branding (e.g., the adoption of common names such as "Polytechnic," the implementation of brandbooks, and the centralization of web presence), propelled by the imperative to contend on the global stage and project a contemporary image.

We introduced a novel model of university–faculty brand interaction, emphasizing that brand formation is a reciprocal process. The university provides a reputational umbrella and guidelines, while faculties infuse the brand with specialized excellence and engage niche audiences. Consequently, effective branding necessitates an ongoing collaboration across organizational levels, rather than a unilateral directive from the top. The measurable parameters and the proposed BVI index offer ways to assess this collaboration. By evaluating factors such as visibility, consistency, engagement, and others, university managers can identify strengths and weaknesses in their branding efforts. For instance, a high Brand Value Index (BVI) indicates that the university and its sub-brands are in alignment with stakeholders, whereas a low BVI may suggest disorganized messaging or inadequate awareness, both of which require remediation.

The academic novelty of this work lies in its integration of branding theory with the specific context of higher education digital strategy. We elucidated the manner in which classic brand architecture models translate to universities, providing a contextual framework with real examples from Eastern Europe. This region, in which many universities are reinventing their identities amid globalization and post-Soviet transitions, offers a salient case study. The introduction of a quantitative Brand Value Index (BVI) tailored to university brand ecosystems constitutes a novel contribution, providing a foundation for further research or practical refinement. For example, future studies could empirically test the BVI components or correlate the BVI with student enrollment trends.

The implementation of these recommendations by Eastern European universities has the potential to enhance their brand identity, thereby leading to an improvement in their international rankings, student recruitment, and partnership opportunities. A robust university brand has been shown to have a significant impact on the creative economy, attracting creative talents and fostering innovation ecosystems within the university. Conversely, the neglect of brand strategy can result in the under-recognition of academically strong universities on the global stage.

In conclusion, it is imperative to consider the following point: The core mission of university branding is to convey the value and values of the institution to the global community. In the digital era, this conveyance occurs instantaneously and ubiquitously online. The chapter emphasized that the formation of a university's brand is a strategic, technology-enabled process, necessitating an understanding of marketing principles and their adaptation to the unique context of academia. The dynamic relationship between a university and its constituent faculties constitutes the crux of this phenomenon, necessitating meticulous administration while concomitantly presenting substantial prospects for cultivating a brand that is both cohesive and diverse. In the contemporary higher education landscape, characterized by escalating competition and digital transformation, institutions that adeptly cultivate brand architecture and interaction stand poised to emerge as leaders within the knowledge economy.

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