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Business Ukrainian in the Age of Artificial Intelligence: Transformation of Language Norms, Professional Etiquette, and Communicative Culture

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Abstract

The article develops a psycholinguistic account of how generative artificial intelligence changes professional Ukrainian-language writing, with particular attention to language norms, professional speech etiquette, communicative culture, and the educational workplace. A structured theoretical synthesis was conducted on a corpus of 29 peer-reviewed journal articles from 2022–2026. The corpus was organised into four evidence blocks: artificial intelligence in business and workplace communication; pragmatic behaviour of large language models; politeness and email communication in academic and workplace settings; and Ukrainian psycholinguistic and speech-etiquette contexts. Studies were coded for communication domain, speech act or genre, role of artificial intelligence, normative and pragmatic outcomes, relational perceptions, and contextual limitations. Because research designs and outcome measures were heterogeneous, the analysis used qualitative comparative synthesis rather than meta-analysis. The synthesis reveals three recurrent transformations. First, generative systems often strengthen formal correctness, structural coherence, and explicit politeness. Second, these gains can be accompanied by communicative conventionalisation: increased formality, formulaic organisation, reduced lexical or strategic variability, and weaker adjustment to the local interpersonal context. Third, artificial-intelligence mediation changes attributional and relational judgements: perceived authorship, authenticity, sincerity, trust, and willingness to maintain interaction may diverge from ratings of professionalism or clarity. These transformations are not uniform; their magnitude depends on communicative risk, status relations, degree of imposition, genre conventionality, source disclosure, and the extent of human revision. On this basis, a three-component model of normative optimisation, communicative conventionalisation, and attributional-relational shift is proposed. For Ukrainian professional communication, especially in higher education, generative artificial intelligence should be treated as a mediator of linguistic choice rather than a neutral editing device. The key research gap is the lack of direct empirical evidence on Ukrainian-language AI-mediated professional writing, which limits straightforward transfer of findings from English-dominant studies.

Keywords: business Ukrainian, teacher, lecturer, artificial intelligence, professional communication of teachers and lecturers, communicative culture of university lecturers, language norms, professional speech etiquette, digital communication, generative artificial intelligence, nursing communication.

1. INTRODUCTION

Generative artificial intelligence (hereafter referred to as AI) has changed the point at which technology enters professional writing. Earlier digital tools generally intervened after an author had formulated an utterance: they checked spelling, suggested synonyms, corrected punctuation, or reorganised an existing document. Large language models operate differently. They can generate a message from the opening sentence to the closing formula and therefore participate not only in linguistic form but also in the selection of a communicative strategy. Research on business communication links this shift to new requirements concerning professional competence, authorship, trust, and responsibility for text [1, 2]. From a psycholinguistic perspective, the crucial point is that the mechanism of message production changes: some decisions about directness, modality, mitigation, emotional tone, and genre composition are delegated to a system trained on statistical regularities in large textual corpora.

The professional quality of such a message cannot be reduced to grammatical correctness. Business writing must also be normative, clear, appropriate to the participants' roles, and sufficiently precise in managing interpersonal risk. This multidimensionality helps explain why findings on generative AI often appear contradictory. In controlled scenarios, ChatGPT performed at a human-comparable level on most pragmalinguistic and sociopragmatic parameters and displayed greater syntactic diversity and formality [3]. In natural dialogues, by contrast, lower lexical diversity, greater repetition, and a stronger preference for prototypical speech patterns were observed [4]. In business refusal emails, ChatGPT texts were more formulaic and less nuanced, whereas Gemini did not differ statistically from human texts in overall ratings of professional writing quality [5]. The relevant question, therefore, is not whether a model can produce an acceptable text, but under what conditions its statistically typical response ceases to be communicatively sufficient.

This problem is particularly visible in professional etiquette. Politeness is not a set of universal expressions that automatically improves a message. In workplace requests, the degree of imposition may have a stronger effect on directness than formal hierarchical rank, and a direct request may be perceived as fully polite in an appropriate context [6]. Research on email evaluation shows that ChatGPT can identify many pragmatic infelicities and strengthen mitigation, acknowledgement of imposition, and status-appropriate wording. At the same time, the system shows a systematic preference for greater formality, conventionalisation, and formulaic organisation, while displaying lower tolerance than lecturers who are native speakers for situationally appropriate variation [7]. This divergence is directly relevant to Business Ukrainian, where normative form coexists with a movement towards less clichéd and more psychologically motivated politeness.

The Ukrainian context has its own dynamics and cannot be replaced mechanically by conclusions drawn from English-language research. An analysis of professional politeness among future managers found high stability in several structural formulas of the letter alongside lower variability in content-sensitive components of refusals [8]. In broader youth communication, a formalised understanding of etiquette is increasingly giving way to an orientation towards respect, tolerance, and sincerity, while the digital environment simultaneously promotes homogeneous reactions and the replacement of individual expression with ready-made markers [9]. For generative AI, this tension is fundamental: the system may reinforce precisely those conventional formulas from which living communicative practice is partly moving away.

Professional communication in education makes the problem even more acute. Emails between students and lecturers combine institutional asymmetry, a need for clarity, and high expectations of speech etiquette. In Xia et al. [10], 53 students used a generate-then-refine strategy with the DeepSeek generative system; lecturers rated the resulting emails as more polite and professional, but not necessarily clearer or more persuasive, and excessive polish could weaken the sense of personal voice. Moon [11] likewise found an immediate improvement in the politeness of student requests after work with ChatGPT, although delayed retention of the effect was limited. For educators and lecturers, generative AI can therefore support language use, but it also raises the question of whether authorial communicative responsibility is preserved or situational judgement is replaced by a safe template.

The purpose of the article is to provide a theoretical account of the transformations of Business Ukrainian under the influence of generative artificial intelligence by synthesising evidence on language normativity, professional speech etiquette, pragmatic adaptability, authorship, authenticity, and trust. The study also seeks to identify the limits of transferring international findings to Ukrainian-language professional communication among educators and lecturers and to propose a model explaining why formal improvement of a text may not coincide with improvement in its communicative culture.

2. CONCEPTUAL BASIS OF THE THEORETICAL STUDY

The theoretical framework distinguishes three levels of a professional message: normative, contextual-pragmatic, and attributional-relational. The normative level covers linguistic correctness, compositional organisation, and conformity with established genre expectations. The contextual-pragmatic level concerns how the author relates a speech act to participant roles, degree of imposition, relational risk, prior context, and the specific communicative goal. The attributional-relational

level concerns the addressee's perception of who is speaking and whether the message appears sincere, personally motivated, and worthy of trust. In ordinary human writing these levels are interconnected, but generative AI can separate them: a text may be formally impeccable while appearing less personal or less appropriate to the particular situation.

The first proposition concerns normative optimisation. Generative models have a clear advantage in tasks with highly conventionalised structures, in which quality is defined by recognisable linguistic and genre regularities. This is consistent with evidence of ChatGPT's pragmatic comparability with human authors in controlled scenarios [3], its strong capacity to adjust formality and mitigation in email [7], and findings from AI-assisted student emails to faculty [10]. Normative optimisation does not imply linguistic consciousness or intention on the part of the model; here it refers only to a functional outcome: an increased probability of a linguistically normative and genre-appropriate formulation.

The second proposition is communicative conventionalisation. The same orientation towards statistically typical linguistic solutions that provides formal reliability may reduce variation when communication requires non-standard adjustment. Tantucci and Sparvoli [4] show that the model reproduces prototypical linguistic patterns while avoiding rare but natural deviations. Wilson and Rose [5] found a similar pattern in business refusals: machine-generated texts were more formulaic and less nuanced even when their structure conformed to the genre. Economidou-Kogetsidis and Lai [7] describe a lower tolerance for context-dependent variability. Conventionalisation in this sense is not synonymous with poor quality; it is a narrowing of the range of communicative solutions that becomes problematic when the situation requires departure from the template.

The third proposition concerns an attributional-relational shift. Addressees evaluate not only content but also the presumed origin of a message. In professional writing, medium and high levels of AI involvement can weaken trust because readers begin to question the sender's authorship, sincerity, care, and ability [12]. In apologies, AI mediation reduced perceived authenticity and willingness to forgive [13], while in a corporate crisis apology the same text received different ratings of trust and forgiveness depending on whether authorship was attributed to a human or to AI [14]. Yin et al. [15] found an even more complex pattern: AI-generated responses could increase the feeling of being heard, but labelling them as AI-generated diminished that advantage. Formal quality and perceived legitimacy are therefore distinct variables.

The fourth proposition introduces communicative risk as a moderator of the preceding processes. The higher the cost of a pragmatic error–for example, in a refusal, apology, negative feedback, or status-sensitive request–the more important the author's ability to adjust form to the local context becomes. Research on workplace requests shows that directness is not determined mechanically by hierarchy but varies with degree of imposition and situational configuration [6]. Limitations of large language models in processing implicature, indirect meaning, and subtle social cues are likewise uneven [16–18]. This supports the expectation that the gap between normative optimisation and pragmatic adaptability will widen as communicative risk increases, although without a direct Ukrainian-language experiment this remains a theoretical proposition rather than an empirically demonstrated effect for Business Ukrainian.

3. METHODS

The study was conducted as a structured theoretical synthesis of peer-reviewed publications. The analytical corpus comprised 29 journal articles published between 2022 and 2026 and selected for their capacity to illuminate at least one of the three levels of the proposed framework: normative, contextual-pragmatic, or attributional-relational. The corpus included studies of generative AI in business and workplace writing, pragmatic behaviour of large language models, politeness and email communication in academic and professional settings, and research describing Ukrainian speech etiquette, professional discourse, and psycholinguistic consequences of machine processing of Ukrainian-language material. Four supplementary items–a preprint and book or pedagogically oriented chapters–were not used as the basis for evidential conclusions.

The corpus was organised into four analytical blocks. The first comprised 13 studies of AI in business, workplace, and interpersonal professional communication, including trust, authorship, and collaboration. The second contained seven studies of large-language-model pragmatics, implicature, indirect requests, impoliteness, and speech variability. The third included four studies of email, academic politeness, and workplace requests. The fourth contained five publications addressing Ukrainian or related psycholinguistic contexts. This division is not a bibliometric classification; it is an analytical procedure designed to trace formal, pragmatic, relational, and linguistic-cultural aspects of the problem separately.

For each publication, the following features were coded: communication domain; language and cultural context; genre or speech act; the role of AI in generating or evaluating text; indicators of linguistic or genre quality; pragmatic characteristics; perceptual consequences; contextual and status-related factors; and limitations reported by the authors. An intra-block synthesis was first conducted, followed by cross-block comparison to identify recurring patterns and contradictions. Particular attention was paid to cases in which formally strong model outputs coexisted with lower authenticity, trust, personalisation, or contextual flexibility. Because the studies differed substantially in design, scales, and dependent variables, no meta-analysis was conducted; quantitative findings from individual studies were treated as local

indicators rather than aggregated into a common effect.

For six publications available in the supplied corpus only as an abstract or publisher preview, the synthesis included only methods, results, and conclusions explicitly visible in the accessible text. Unavailable details of sampling, statistical procedures, or full interpretations were not reconstructed. This rule was applied, among others, to studies of professionalism and authenticity in writing, the effects of prompt formulation, attribution of corporate apologies, email-politeness evaluation, and student-faculty correspondence. The procedure was intended not to rank systems quantitatively but to construct a theoretical model capable of explaining why findings diverge across genres, levels of conventionalisation, and interpersonal risk.

Table 1 summarises the analytical structure of the corpus.

Table 1. *Structure of the analytical corpus of the theoretical study*

Analytical block	Number of studies	Primary focus	Function in the synthesis
AI in business and professional communication	13	professionalism, trust, authorship, apology, support, usage policy	identifying relational and organisational consequences
Pragmatic behaviour of large language models	7	speech acts, implicatures, impoliteness, indirectness, linguistic variability	explaining limits of contextual adaptability
Email, politeness, and status	4	academic and workplace emails, requests, formality, degree of imposition	analysing professional etiquette and status sensitivity
Ukrainian and psycholinguistic context	5	speech etiquette, managerial discourse, Ukrainian-language material, digital writing	defining limits of cross-linguistic transfer and Ukrainian specificity
Total	29		

Note. The division reflects the function of the studies in the theoretical synthesis rather than mutually exclusive disciplinary membership.

The distribution in Table 1 indicates that the synthesis draws most heavily on professional communication research. Consequently, the smaller contextual block should guide culturally sensitive interpretation rather than be treated as equivalent direct evidence of AI effects in Ukrainian-language workplaces.

4. RESULTS

4.1. EVIDENCE FIELD: FORMAL QUALITY DOES NOT EQUAL CONTEXTUAL ADEQUACY

The most consistent pattern in the corpus is that generative models perform best where the communicative task can be framed as reproducing a recognisable linguistic pattern. Chen et al. [3] compared 148 ChatGPT-generated conversations with 82 human conversations and 354 human evaluations. The model was comparable to humans on four of five pragmalinguistic and five of six sociopragmatic characteristics and showed greater syntactic diversity and formality. Participants could not reliably distinguish machine-generated from human texts. Considered in isolation, this result supports the claim that a contemporary language model can display high functional pragmatic competence in controlled tasks.

A different picture emerges when the material is less controlled or more dependent on specific relationships. In natural dialogues, Tantucci and Sparvoli [4] found lower lexical diversity in machine-generated language: the distribution of type–token ratios clustered at approximately 0.20 compared with 0.26 in the human corpus. The authors associate this with a preference for prototypical vocabulary and limited reproduction of linguistic outliers–rare but natural choices in a particular interaction. Wilson and Rose [5] found a similar effect at the genre level in business refusals: ChatGPT and Gemini produced more formulaic and less nuanced messages, while raters focused not on grammar alone but on tone, relationship management, lexical choice, content, and structure. ChatGPT received lower ratings of professional writing quality, whereas Gemini did not differ statistically from human texts. The category 'machine-generated text' is therefore insufficient on its own; the profile of the particular text matters.

The apparent contradiction disappears if conventionalised competence is distinguished from contextual adaptability. In a task with a clearly specified speech act, a statistically typical response may be sufficient, and its formality may even improve evaluation. In a refusal, apology, or status-sensitive email, however, success requires more than a correct genre move: the writer must decide when to use it, how much explanation to provide, whether directness is justified, and how personalised the closing should be. It is at this level that normatively acceptable and communicatively adequate messages begin to diverge.

4.2. NORMATIVE OPTIMISATION AND COMMUNICATIVE CONVENTIONALISATION

Evidence on formality and structure supports the first and second propositions simultaneously. In Economidou-Kogetsidis and Lai [7], ChatGPT's evaluations were close to those of lecturers who are native speakers: the system identified key pragmatic infelicities and rewrote emails to strengthen politeness, mitigation, acknowledgement of imposition, and status-appropriate language. Yet the same revisions also moved systematically towards greater formality, conventionalisation, and formulaic organisation. Human evaluators showed greater tolerance for variants whose appropriateness depended on the situation. The model therefore optimises text against a relatively stable set of features, but such optimisation may narrow the range of acceptable professional choices. Dynel's [19] analysis provides related metapragmatic context by examining users' conscious linguistic awareness in Reddit posts presenting human–AI interactions. It illuminates explicit reflection on language use, but does not independently establish a systematic preference for greater

formality or conventionalisation in professional correspondence.

A similar pattern appears in educational correspondence. Xia et al. [10] found that students valued generative assistance with tone and clarity while also noticing excessive formality and verbosity. Faculty rated AI-assisted emails as more polite and professional, but not necessarily clearer or more persuasive; excessively polished language could weaken personal voice. Professionalism as perceived by an addressee therefore has at least two components: orderly form and fit with the particular individual writer and communicative situation. A generative system may strengthen the first without guaranteeing the second.

Conventionalisation should not be understood simply as an accumulation of clichés. The issue is invariance of choice: the system more often returns to the same safe strategies across different conditions. Wilson and Rose [5] showed that machine-generated refusals realised genre moves more consistently, whereas human writers more often omitted or reordered them depending on the audience. Tantucci and Sparvoli [4] describe a similar effect at the level of lexis and speech acts. From this perspective, formulaicity is not merely a stylistic surface feature but an indicator of limited sensitivity to local interaction.

Not all standardisation is undesirable. In routine administrative messages whose main purpose is to convey unambiguous information quickly, high conventionality may improve predictability and reduce the risk of a serious etiquette error. Wang [20] showed that the quality of ChatGPT-generated business messages depends substantially on prompt formulation: integrating rhetorical genre information into the prompt improved output quality. The properties of the resulting text therefore depend not only on the model but also on how the user specifies genre, audience, and communicative task. In professional practice, conventionalisation is partly manageable, but doing so requires metacommunicative competence on the part of the writer.

4.3. PROFESSIONAL SPEECH ETIQUETTE: FROM FORMULA TO STATUS-SENSITIVE STRATEGY

Research on email communication shows that professional etiquette cannot be operationalised simply by counting politeness markers. Jung and Lee [6] found that in workplace requests, the degree of imposition outweighed hierarchical rank as a predictor of directness. Under certain conditions, direct requests could be contextually polite. This challenges the simple assumption that greater indirectness or more mitigation automatically indicates better etiquette. If a generative system is optimised to maximise broadly recognisable signs of politeness, it may produce an overly cautious message where professional norms permit a concise direct form.

The capacity of large language models for social inference is likewise heterogeneous. Andersson and McIntyre [16] showed that ChatGPT generally recognises many instances of impoliteness but has greater difficulty with implicature and subtle contextual functions and may sometimes be overly sensitive to potential threat. Cong [17] identified limitations in processing manner implicatures, whereas Strachan et al. [18] reported strong GPT-4 performance on indirect requests and some theory-of-mind tasks but weaker performance on social faux pas and under changes in task wording. Taken together, these findings indicate that pragmatic success depends on whether a task can be solved through recognition of a stable discourse pattern or requires fine-grained inference of local intention.

Ukrainian evidence further supports the need to distinguish etiquette form from etiquette function. In Vlasenko and Maistruk's [8] study of 218 future managers, a professional refusal letter was represented as a sequence of six semantic blocks. One salutation formula dominated: the Ukrainian forms Shanovnyi/Shanovna ('Dear') were used by 74.8% of the respondents in the study. The concentration around a small number of standard devices shows that conventionalisation of professional writing preceded the spread of generative AI. The technology does not create formulaicity from nothing; it may reinforce an existing tendency of institutional writing towards stable formulas.

The dynamics of contemporary Ukrainian speech etiquette described by Bahan and Sklyarenko [9] point in the opposite direction: away from a formalised understanding of politeness and towards respect, tolerance, sincerity, and more individualised expression. At the same time, virtual environments promote homogeneous reactions and the replacement of personal statements with ready-made signs of approval or disapproval. Generative AI enters an already existing field of tension. It may improve communicative culture by helping users avoid serious normative and etiquette errors, but it may also intensify uniformity when the writer accepts the most typical option without critical revision.

4.4. AUTHORSHIP, AUTHENTICITY, AND TRUST AS A SEPARATE DIMENSION OF QUALITY

Studies of professional-writing perception consistently show that readers evaluate not only the text but also the presumed extent of the sender's involvement in creating it. In a large study of professional writing, Cardon and Coman [12] found that medium and high levels of AI assistance increased doubts about authorship, confidence, care, sincerity, and the sender's ability, even when the message could still appear formally professional. This creates a gap between evaluation of the product and evaluation of the person sending it. In professional communication, the distinction is important because trust

concerns not only the accuracy of information but also responsibility for it. Coman and Cardon [21] similarly separated professionalism from authenticity: AI-assisted messages could be perceived as effective and professional while ratings of sincerity and care varied with disclosure conditions.

Apology is a particularly revealing speech act because its success depends on whether the addressee attributes sincere acknowledgement of wrongdoing to the speaker. Glikson and Asscher [13] showed that AI mediation in an apology can reduce perceived authenticity and willingness to forgive; limited AI involvement was less harmful than extensive involvement. Lim et al. [14] found a related effect in crisis communication: with identical text, a human-source label produced higher ratings of trust and forgiveness than an AI-source label. Message wording and knowledge of its origin therefore operate as distinct factors.

Yin et al. [15] showed that this logic cannot be reduced to a general bias against technology. In their experiment, AI-generated responses could create a stronger feeling of being heard and connected, yet an AI label diminished this effect. Hohenstein et al. [22] likewise showed that algorithmic suggestions change language and social relationships: they can increase positivity and communication speed, while suspicion that AI has been used negatively affects evaluation of the partner. Technological mediation therefore has a dual status: it may improve a message functionally while weakening its relational legitimacy.

Intermediate forms of human-system collaboration appear more promising than complete delegation. Meng et al. [23] compared different modes of human-AI involvement in social support and found that combining AI assistance with active human agency can preserve reciprocity, self-disclosure, and authenticity better than fully automated responses. In a different genre, Formosa et al. [24] showed that as AI assistance increases, authorship and responsibility attributed to the human decrease while expectations of disclosure increase. For business writing, the critical variable is therefore not only whether AI is used, but how much human judgement remains in the final text.

4.5. BUSINESS UKRAINIAN AND THE PROFESSIONAL COMMUNICATION OF EDUCATORS AND LECTURERS

The available corpus contains no direct empirical comparison of Ukrainian-language professional messages produced by humans and by generative models. Quantitative effects found in English-language writing therefore cannot be transferred to Ukrainian without qualification. Chang and Bergen's [25] review of language-model behaviour emphasises input sensitivity and unequal linguistic resources, with a substantial share of large-language-model research concentrated on English. Claims about a model's 'high pragmatic competence' consequently apply to specific languages, model versions, and tasks rather than to a universal ability to operate equally across professional cultures.

At the same time, Ukrainian studies provide enough evidence to identify parameters that cannot be ignored in such transfer. Soloshchuk and Skrynnik [26], analysing English-language managerial dialogue, demonstrate the dependence of managerial discourse on social roles and situational configuration; their findings provide contextual comparison rather than direct evidence about Ukrainian-language writing; Vlasenko and Maistruk [8] describe the structure of professional politeness and its formulaic zones; Bahan and Sklyarenko [9] show the dynamic nature of the etiquette ideal itself. Zasiekin and Kalishchuk [27], analysing machine-translated Ukrainian narratives, demonstrate that automated language processing can alter affective and cognitive features of a text. These studies do not establish a specific effect of generative AI in Ukrainian business correspondence, but they show that linguistic-cultural context is an independent variable rather than a neutral background.

For educators and lecturers in higher education, professional communication has a dual nature. It is business communication because it regulates deadlines, assignments, assessment, organisational decisions, and institutional roles; at the same time, it often performs pedagogical and relational functions. An excessively standardised message may be formally correct while creating a distance that the situation does not require. Evidence from student-faculty correspondence [10, 11] confirms that generative AI can support politeness and professionalism but may also encourage excessive formality and weaken personal voice. The communicative culture of a lecturer using AI must therefore include not only command of language norms but also the ability to restore personal intention, status-sensitive precision, and responsibility for tone in an AI-generated draft.

Fedoriv [28] likewise draws attention to formal style and insufficient cultural sensitivity as risks in AI-assisted writing that require human review. This is especially relevant to Ukrainian professional practice because etiquette norms are changing rapidly and language choice carries considerable social sensitivity. A generative system may support normativity, but it should not turn normativity into uniformity of communicative identity.

4.6. THREE-COMPONENT MODEL OF THE TRANSFORMATION OF UKRAINIAN BUSINESS COMMUNICATION

The synthesis supports a three-component model of how generative AI transforms professional Ukrainian-language communication. The first component is normative optimisation: an increased probability of grammatically correct, well-structured, genre-recognisable, and explicitly polite form. The second is communicative conventionalisation: a narrowing of variation, preference for more formal and safer solutions, repetition of genre moves, and a risk of insufficient adaptation to a specific addressee. The third is an attributional-relational shift: changes in judgements of authorship, sincerity, authenticity, and trust depending on actual or attributed AI involvement. The three components may operate simultaneously and in different directions; improvement in the first therefore does not imply automatic improvement in the second or third.

The model includes five moderators. Communicative risk determines how consequential a formulaic solution may be for the relationship. Status and degree of imposition influence acceptable directness and the amount of mitigation. Linguistic-cultural context determines which formulas are perceived as normative, natural, or excessively formal. The extent of human revision affects preservation of individual voice and responsibility. Source disclosure may alter perceptual evaluation independently of the text itself. Within this framework, generative AI is neither an independent 'author' nor a neutral 'tool'; it is a mediator that redistributes speech-production decisions among the human writer, the statistical model, and the addressee's social expectations.

Figure 1 summarises the proposed three-component model and its moderators. Table 2 reconciles apparently conflicting findings across the evidence base, while Table 3 translates the model into a typology of transformations and corresponding requirements for human control.

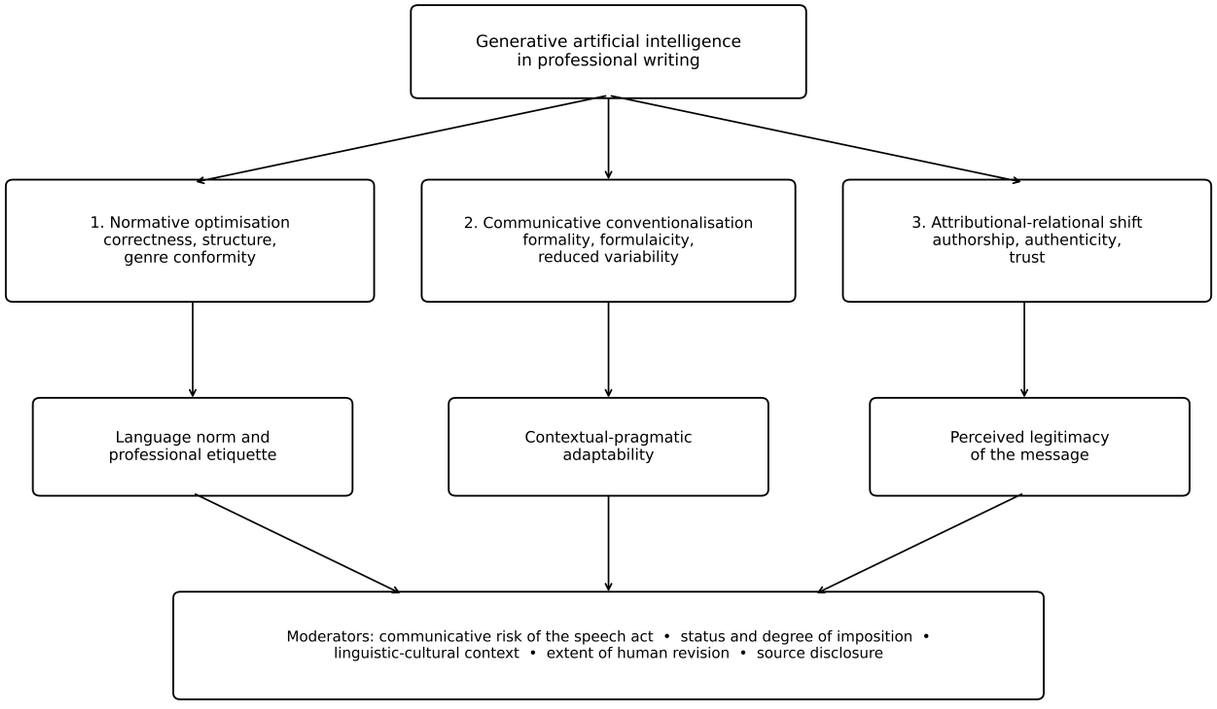


Figure 1. *Three-component model of the transformation of professional Ukrainian-language communication under the influence of generative AI.*

Source: Authors' theoretical model based on the synthesis of the analysed studies.

The relationships represented in Figure 1 are theoretical propositions. They describe how improved formal quality can coexist with reduced contextual flexibility or altered trust; they do not constitute estimated causal pathways or experimentally established effects in Ukrainian-language communication.

The comparison in Table 2 shows that apparently divergent findings concern different outcomes and communicative conditions. Performance on a controlled pragmatic task therefore cannot, by itself, establish equal effectiveness in relationship-sensitive professional correspondence.

The distinctions in Table 3 indicate that human review must address several dimensions of a message simultaneously.

Correcting grammar alone cannot resolve concerns about interpersonal fit, individual voice, or the sender's responsibility for the final wording.

Table 2. *Conflicting findings on large language models and their theoretical reconciliation*

Line of evidence	Representative studies	Apparent implication	Interpretation in the proposed model
Pragmatic comparability	[3]	the model is human-comparable on most pragmatic parameters	high performance in controlled and conventionalised situations
Linguistic variability	[4]	machine-generated speech is less lexically diverse and more prototypical	conventionalisation is more pronounced in natural local context
Business refusals	[5]	ChatGPT performs below human texts; Gemini is comparable	the effect depends on the model and on the need to adapt genre to the relationship
Email politeness	[7, 10]	AI increases politeness and professionalism but may be overly formal	normative optimisation coexists with reduced situational flexibility
Authenticity and trust	[12–15]	a formally strong text does not guarantee trust	perceived legitimacy depends on attributed authorship and degree of AI involvement

Table 3. *Typology of transformations of Business Ukrainian in the context of generative AI*

Transformation type	Potential resource	Main risk	Critical context	Criterion for human control
Normative-linguistic	fewer overt errors; stronger structure	excessive formality or stylistic uniformity	official and semi-official messages	Does the form match the actual register of the situation?
Etiquette-pragmatic	explicit politeness, mitigation, complete genre moves	formulaic mitigation; weak status and situational adaptation	refusal, request, reminder, negative feedback	Are directness, imposition, and status roles aligned?
Communicative-cultural	access to normative models of professional writing	narrowing of individual voice and variability	long-term professional relationships; educational interaction	Are personalisation and institutional appropriateness preserved?
Attributional-relational	rapid production of formally professional text	reduced authenticity, trust, or sense of authorial responsibility	apologies, crisis and reputational messages	Can the sender personally justify and endorse the content?
Educational-professional	support for educators' and lecturers' language competence	dependence on ready-made templates; weak transfer of skills	official and student-faculty correspondence	Is AI used as a draft rather than a substitute for pragmatic decision-making?

5. DISCUSSION

5.1. WHY CONFLICTING FINDINGS ARE NOT MUTUALLY EXCLUSIVE

The principal theoretical advantage of the proposed model is that it rejects a one-dimensional evaluation of large language models as simply 'better' or 'worse' than humans. The studies measure different properties and impose different communicative pressures. Chen et al. [3] used controlled speech-act situations in which tasks could be standardised; Tantucci and Sparvoli [4] compared the model with natural dialogues, where much of human distinctiveness lies precisely in departures from the prototype; Wilson and Rose [5] analysed professional refusals, where genre correctness must be balanced against relationship protection. From this perspective, divergent findings do not indicate instability in the evidence. They show that communicative competence is not a fixed property of a text generator independent of task conditions.

This interpretation is consistent with broader evidence on language-model behaviour. Chang and Bergen [25] show that model performance depends substantially on input formulation, training regularities, and evaluation procedures. Strachan et al. [18] likewise demonstrate that strong performance in selected theory-of-mind tasks does not eliminate weaknesses in socially delicate situations and does not guarantee robustness to rephrasing. For psycholinguistic analysis, it is therefore more appropriate to speak of a profile of functional success under particular conditions of message production and perception than of an abstract 'pragmatic competence of AI'.

In business communication, the most consequential category error is to mistake normative optimisation for a general improvement in communicative culture. A message may become grammatically cleaner, better structured, and more explicitly polite without representing the writer's intention more accurately or fitting the relationship more precisely. Findings on authenticity and trust repeatedly demonstrate the independence of these dimensions [12–14]. Evaluation of AI-assisted professional writing should therefore include at least two separate checks: a linguistic-genre check and a relational-pragmatic check.

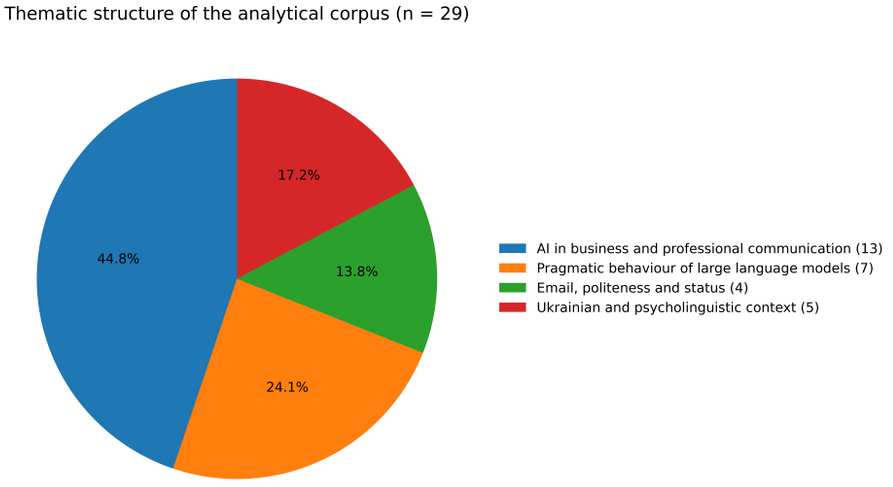


Figure 2. *Thematic structure of the analytical corpus.*

Source: Authors' calculations based on the analytical corpus (n = 29).

The thematic distribution of the analytical corpus is shown in Figure 2, and its chronological concentration is shown in Figure 3. Together, the figures also make visible the asymmetry of the evidence base: research on AI-mediated professional communication is substantially more developed than direct Ukrainian psycholinguistic evidence, and most included studies were published in 2024–2025.

The thematic comparison in Figure 2 should be interpreted as a description of this purposively assembled corpus. It does not establish the relative prevalence of these themes across the wider literature or the strength of evidence within each analytical block.

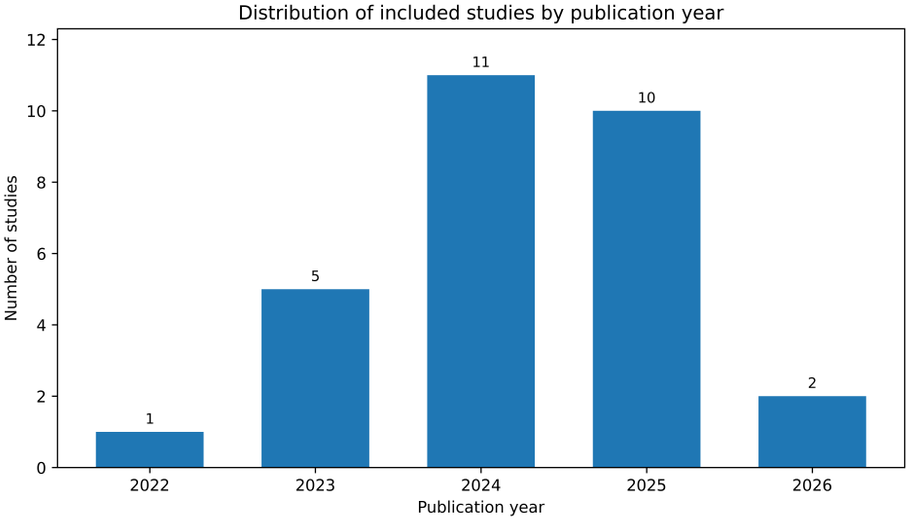


Figure 3. *Distribution of included studies by publication year.*

Source: Authors' calculations based on the 29 studies included in the theoretical synthesis.

The chronological distribution in Figure 3 locates the synthesis within a rapidly developing literature. Publication-year concentration alone cannot indicate methodological quality, and differences between online publication dates and issue years require consistent treatment when interpreting the figure.

5.2. LIMITS OF TRANSFERRING INTERNATIONAL FINDINGS TO BUSINESS UKRAINIAN

The greatest methodological limitation of the current literature is the dominance of English and English-language institutional genres. Business Ukrainian has its own norms of address, degrees of formality, historically established models of official writing, and an ongoing movement away from bureaucratic formulaicity. The conclusion that a model is 'overly formal' therefore has no universal meaning outside a specific linguistic culture: what is excessive in one institutional environment may be normative in another. Ukrainian research on etiquette and professional discourse is thus needed not as a decorative local supplement but as a basis for defining adequacy criteria [8, 9, 26].

Existing Ukrainian studies do not, however, directly answer the question of generative writing. Zasiekin and Kalishchuk [27] show that machine processing can change psycholinguistic properties of Ukrainian text, but their material concerns translation of war narratives rather than business correspondence. Fedoriv [28] analyses problems of AI-assisted writing but does not model Ukrainian professional etiquette as a distinct object. The theoretical model proposed here therefore establishes a programme for empirical testing rather than replacing such testing. Future work is needed on Ukrainian-language requests, refusals, apologies, reminders, and professional feedback, with explicit control of status and communicative risk.

The same caution applies to normative recommendations. There is no basis for claiming that generative AI has already changed the codified norm of Ukrainian. The available evidence supports a more limited claim: the technology changes the frequency and accessibility of certain linguistic solutions and may therefore influence usage in professional digital communication. If the same formulas are repeatedly proposed to large numbers of users, they acquire an additional channel of circulation. Whether they become stable norms will depend on human revision, institutional practice, and the language culture of the community.

5.3. PROFESSIONAL COMMUNICATION OF EDUCATORS AND LECTURERS: FROM LANGUAGE ASSISTANCE TO CRITICAL AI COMPETENCE

Generative AI is especially attractive to educators and lecturers for routine writing: replies to students, reminders, informational notices, refusals, deadline arrangements, and messages to colleagues. These genres are repetitive and therefore align well with the strengths of current models. Yet routineness does not imply low interpersonal weight. A short

message about lateness, academic integrity, or inability to grant a request performs both an administrative and a pedagogical function. An excessively formal text may be normatively acceptable while shifting the lecturer from a partner-like to a distant position; excessive mitigation, conversely, may obscure boundaries of responsibility.

Research on student-faculty correspondence shows that generative support is particularly useful when users lack a repertoire of polite formulations. Moon [11] found an immediate improvement in etiquette strategies, and Xia et al. [10] reported higher ratings of politeness and professionalism. Limited retention of the skill and concerns about excessive polish, however, show that a strong final text is not equivalent to learning. When a system immediately supplies a normatively acceptable formulation, users may not learn why it is appropriate or when it should be modified. For lecturers, this has a double implication: their own professional writing requires critical revision, while students' use of AI calls for pedagogical explanation of pragmatic principles rather than control of final form alone.

Critical AI competence in this context can be defined as the ability to distinguish three questions: whether a text is normatively correct; whether it is pragmatically appropriate to the specific roles and risks; and whether the sender is prepared to take personal responsibility for its content and tone. This three-level check follows directly from the proposed model. It is also consistent with organisational recommendations to preserve human agency in workplace communication [29] and with evidence that character and communication competence remain central professional resources in the AI era [2]. Table 4 summarises the resulting practical guidance for common professional-writing situations.

Table 4. *Practical guidance for using generative artificial intelligence in professional writing*

Communicative situation	What the system can support	Main risk	Human control required
Informational message	structuring, concise presentation, linguistic polishing	stylistic uniformity	check register and institutional appropriateness
Request or reminder	formulating polite strategies; clarifying the request	excessive mitigation or inappropriate directness	align wording with the actual degree of imposition
Refusal	building a basic genre structure	formulaicity and weakened relational sensitivity	manually revise tone, explanation, and alternatives
Negative feedback	softening unnecessarily harsh wording	loss of specificity or pedagogical stance	check the balance between clarity and tact
Apology or crisis message	preparing an initial draft	reduced authenticity and trust	retain personal authorial responsibility for every formulation

Note. The table is a theoretical synthesis of implications identified across the reviewed studies; it is not an empirical risk scale.

The guidance in Table 4 assigns greater responsibility to the human writer as the relational consequences of a message increase. These recommendations follow from the conceptual synthesis and require validation in Ukrainian professional settings before being interpreted as tested intervention effects.

5.4. LIMITATIONS OF THE THEORETICAL STUDY

The synthesis has several limitations. The corpus is a purposively constructed theoretical body of literature rather than the product of an exhaustive bibliometric search across all scientific databases; it is therefore suitable for conceptual synthesis but not for estimating how prevalent particular findings are in the literature as a whole. Some recent publications were available only through publisher previews, so their findings were used conservatively. The studies also differ in models, system versions, languages, genres, and evaluation scales, while generative-system behaviour changes rapidly following updates. Even a well-supported pattern should therefore not be transferred automatically to another model version or linguistic situation.

A further limitation is the asymmetry of evidence between international and Ukrainian material. The corpus contains substantial international evidence on business refusals, apologies, workplace requests, student-faculty emails, authorship, and trust, but no direct study of generative Ukrainian-language business writing. The proposed three-component model must therefore be treated as a theoretical result and a programme for further testing. Its value lies not in predicting exact effect sizes but in identifying variables that should be distinguished in a future Ukrainian psycholinguistic experiment: normativity, formulaicity, status sensitivity, personalisation, attributed authorship, authenticity, and trust.

6. CONCLUSIONS

The theoretical synthesis indicates that the influence of generative artificial intelligence on Business Ukrainian is best described not as a simple improvement or deterioration of writing but as the simultaneous operation of three processes. Normative optimisation increases the probability of a correct, structured, and explicitly polite form. Communicative conventionalisation may narrow variability, increase formality, and reproduce the same genre solutions where a professional situation requires local adjustment. The attributional-relational shift changes perceptions of authorship, authenticity, and trust independently of a message's formal quality. The strength of these processes depends on communicative risk, status relations, degree of imposition, linguistic-cultural context, the extent of human revision, and whether AI use is disclosed to the addressee. For the professional communication of educators and lecturers, generative systems can be effective tools of linguistic support but should not replace the writer's pragmatic judgement. The scientific contribution of the study is the proposed three-component model integrating language norms, professional etiquette, and the perceptual-relational consequences of AI-mediated writing. The principal empirical gap is the absence of systematic data on Ukrainian-language professional messages generated or revised by generative models. Future research should test the model on Ukrainian requests, refusals, apologies, reminders, and professional feedback while separately controlling for status,

communicative risk, and source disclosure. A promising direction is to test the model across different types of professional communication within institutions, including educational settings, nursing communication, and other contexts in which linguistic normativity is closely intertwined with a high degree of interpersonal responsibility.

Author Contributions

Alona Taranenko: Conceptualization, Methodology, Investigation, Writing – Original Draft, Writing – Review & Editing. Olha Shuminska: Data Curation, Investigation, Formal Analysis, Writing – Original Draft. Borys Kovalenko: Supervision, Conceptualization, Validation, Writing – Review & Editing. Tetiana Babenko: Resources, Investigation, Writing – Review & Editing. Nataliia Torchynska: Methodology, Formal Analysis, Validation, Writing – Original Draft, Writing – Review & Editing. All authors contributed to the development of the study, critically reviewed the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

Conflict of Interest

The authors declare no conflicts of interest.

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Data availability

Data are available from the corresponding author upon reasonable request.

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