Phygital learning: hybrid learning education from an Indonesian phygital community

Ardi W. Saputra, Setya Y. Sudikan & Anas Ahmadi

State University of Surabaya
Surabaya, Indonesia

ABSTRACT: Phygital learning refers to the integration of traditional/physical learning with a digital world that results in new, unique experiences for the user. The subject of this study was a phygital community in Indonesia called Kampung Pentigraf Indonesia (KPI). In regard to this digital community, the aims of this study were to examine: 1) the KPI phygital learning strategy; 2) the essence of phygital learning carried out by the KPI; and 3) the results of the KPI phygital learning strategy. A postqualitatvie research approach with netnography has been used with specific emphasis on the indigenous digital environment in Indonesia. Data were collected by means of digital and face-to-face observations, and then examined through digital humanities analysis techniques. The results indicate that KPI on-line activities can enhance the participants' communication and collaboration skills, develop their interest and improve their competence in writing, which are the skills required of higher education graduates.

INTRODUCTION

There is a lot of discussion about phyigtal learning in Indonesia at the moment. One of the phygital communities that has been very active and consistent over the years is the *Kampung Pentigraf Indonesia* (KPI), established over ten years ago. This community is engaged in literacy, and especially in learning to write three-paragraph short stories, called pentigraphs [1]. Pentigraph writers have the same passion about and interest in writing short stories, and their approach to writing is influenced by the digital environment in which they operate.

Phygital theory is used as a basis for understanding the conditions of the new learning strategy that combines both the physical and digital learning [2]. This research outlined in this article focuses on the learning of creative writing. Based on some studies; Indonesian people tend to find it difficult to write creatively due to psychological problems and a perceived lack of talent [3]. One way to overcome these psychological and perception problems is to change the existing learning pattern to phygital learning. Phygital learning (integration of physical and digital) may be considered key to reviving the teaching and learning process [4] of the post-millennial generation [5]. New generations need phygital experiences as they are natives to the digital word. The digital experience can be achieved when learners enter the digital learning process. The vision of digital learning is to manage big data resources into intelligent data utilisation.

In digital learning, the virtual world is one of the main resources [6]. The learner can be invited to see, feel and smell all the phenomena that exist in the digital universe [7-10]. The concept of phygital learning refers to its strategy, substance and connectivity [11][12]. Phygital learning encourages development of holistic intelligence [13], which is needed when humans coexist in the digital realm [14].

Studies on the learning of creative writing from an indigenous perspective are relatively new, especially in regard to pentigraph writing, which is the focus of this research. Pentigraph writing is writing a three-paragraph short story. This short story (a pentigraph) is a mini-fiction genre with three parts, including an opening, body and a closing part, each one - a new paragraph. Three paragraphs were chosen because number three is close to the culture and religiosity of the Indonesian people. The initiator of the three-paragraph short story is Tengsoe Tjahjono [15]. Pentigraph writing has been practised in Indonesia since 1980. However, a wider public recognition by the Indonesian people started in 2015 along with the development of communication and information technology, social media networks, especially Facebook.

In this study, pentigraph theory was the base to understand the KPI learning strategies, and community theory was used to examine the KPI as a phygital community. Also, this study is particularly relevant for the post-millennial generation that needs digital-based innovations in learning.

The concept of phygital-based learning research has been outlined in previous studies [16]. So, considering that the KPI community is a cyber literary community in Indonesia, the concept regarding phygital learning has been applied to this present case study

Based on the above introduction, this study aimed to examine: 1) the KPI phygital learning strategy; 2) the essence of phygital learning carried out by the KPI; and 3) the results of the KPI phygital learning strategy.

The method of implementing the strategy and essence of phygital learning by the KPI could be applied by higher education institutions in regard to creative writing. The core content/essence used by the KPI could also be applied in regard to lectures and practical classes at universities. This article also presents strategies that could be implemented by universities based on KPI phygital learning practices, where each research objective is linked to educational technology in higher education.

RESEARCH METHOD

In this study, a postqualitative research approach has been used. Postqualitative research prioritises new interactions and materials as a source of research data. *Intraaction* means that there is more than just an interaction between the author and the data source under study [17]. This requirement for *intraaction* has been fulfilled by KPI authors' involvement in the phygital community by participating in physical and digital interactions as KPI members. Through this interaction, the authors get to know the process of strengthening writing abilities carried out by the community. The postqualitative research method applied in this study is based on netnography.

A netnographic approach is a type of digital ethnography [18]. Through netnography, ethnographers conduct their research in virtual and corporeal realms, on-line and off-line [19][20]. The data source in this research was the KPI community in the process of interaction as a social media and interactions between members of the community. The data were collected by means of observations, interviews with KPI initiators and members, and document studies. The collected data were then analysed and appropriately presented.
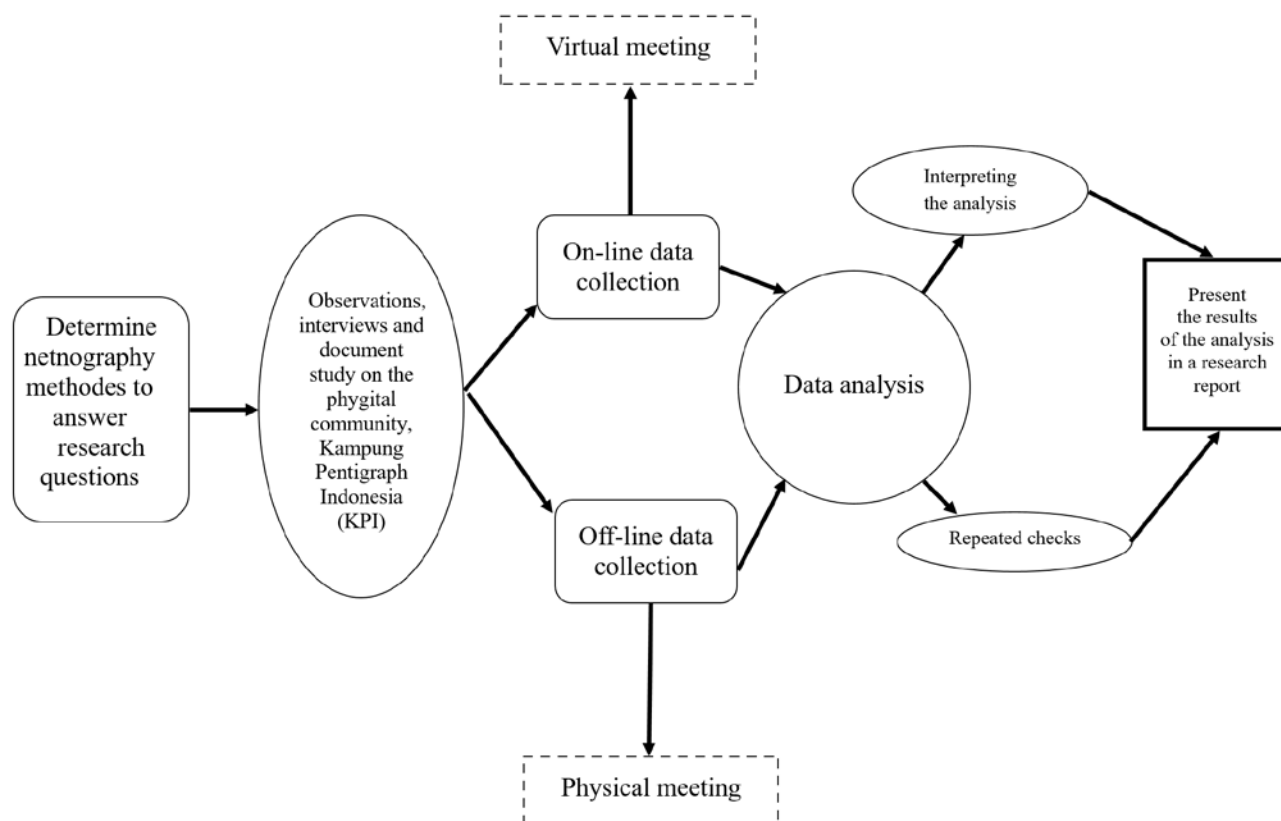

Figure 1: Netnography research scheme.

RESULTS

Phygital Learning Strategy

The phygital learning strategy in the KPI is carried out by applying eight aspects of phygital learning, which are: 1) competence; 2) consistency; 3) communication; 4) collaboration; 5) content; 6) context; 7) attractiveness; and 8) connection. Each aspect of digital learning has its own elements. The competence component must fulfil the elements of deep knowledge coupled with high-level skills. The consistency component should fulfil both physical

and digital elements. The communication component must fulfil the elements of how to communicate effectively. The collaboration component must fulfil the elements of instructors, learners and peers who collaborate with the organisers of the learning process. The content component must fulfil the interactive element. The context component must fulfil the element of learning material. The attractiveness component must fulfil the reward element. The connection component must fulfil the element of software/hardware that supports the connectivity. The eight components of digital learning and its elements have been integrated in the learning of creative writing at the KPI (Table 1).

Table 1: Description of the phygital learning strategy from the KPI perspective.

Aspect of phygital learning	Description
Competence	There are three competencies that relate to the corporeal realm; namely: 1) symbolic capital; 2) social capital; and 3) material capital. The symbolic capital refers to the form of knowledge capital owned by the material provider. When the symbolic capital is recognised, the social capital automatically increases. In carrying out the learning process, the material capital is certainly needed. The pentigraphers who are members of the KPI also need some material capital to organise the pentigraph training process both on-line and off-line. The off-line pentigraph learning requires a place and facilities to support learning. The material capital is needed to print books that are the work of pentigraphers.
Consistency	The KPI also needs consistency in conducting the digital learning process. This consistency can be seen in: 1) publishing books; 2) off-line training; 3) on-line training; 4) teaching through WhatsApp groups; and 5) teaching through Facebook. Book publishing has been carried out since 2016, precisely as a sign of the KPI establishment.
Communication	Communication in the KPI learning process is carried out on-line and off-line. On-line communication refers to providing a new theme to the community, which is then followed up as a joint mission in working on a three-paragraph short story anthology. Even though the learning process is carried out on-line, community members still want to meet off-line. The combination of on-line and off-line meetings is in accordance with the foundation principles of phygital learning.
Collaboration	There are four elements that refer to collaboration: 1) schools; 2) universities; 3) mass media; and 4) communities of learners. The school is the first element because most members of the KPI are teachers. The presence of higher education lecturers in the KPI community indirectly makes the college, where the lecturer teaches a partner in the process of learning creative writing, especially pentigraph writing and learning.
Content	The content aspect refers to a literary genre in the form of three-paragraph short stories or pentigraphs. In terms of content, the narrative element in pentigraphs makes an interesting topic to discuss in the digital learning process. The speed and precision of the digital realm makes the extraction of narrative in a three-paragraph short story very effective and very flexible.
Context	Context in the digital learning process aims to provide boundaries. The boundaries need to be conveyed through guidelines, which are provided by the KPI in print and digital form. There are two printed guidelines in the form of books: *Meneroka Dapur Pentigraf (Exploring the Pentigraph Kitchen)* and *Berumah dalam Sastra Tiga (Home in Literature Three)*. Digital guidance takes the form of podcasts conducted by Tengsoe Tjahjono - the inventor of pentigraph.
Attractiveness	Attractiveness refers to the will of learners to keep them willing to learn. When learning is interesting, the desire to learn will be greater. The attractiveness of phygital learning in the KPI refers to the appreciation of physical and digital entities. So far, the learning process has focused only on rewarding either the physical entity only or the digital entity only. The next facet of attractiveness refers to functioning in a wider network. The pentigraphers who initially do not know each other, may start working together on a pentigraph book.
Connection	Connectivity can be physical or digital. Physical connectivity refers to face-to-face pentigraph writing training, while digital connectivity refers to this training provided on-line. The formal learning process means that the KPI provides training in pentigraph writing at the school to college level, while non-formal learning is carried out through clustered discussion forums, even in cafes. On-line connectivity can be achieved with the help of technology, such as software applications.

The eight phygital learning strategies employed by the KPI can also be applied by higher education institutions in teaching creative writing. At the core of the eight strategies are collaboration and appreciation of the individual/group. Collaboration is needed to expand connectivity in the phygital learning process. Connectivity to all elements of society is needed to broaden the learners' horizons.

Besides collaboration, the appreciation of the individual/group is also at the core of phygital learning strategies, and it can refer to the physical and digital entity. Valuing both physical and digital entities in one learning process is at the core of the phygital learning strategy. Based on the KPI's experience in appreciating the physical and digital presence of its members, higher education institutions should be encouraged to do likewise. The appreciation of the physical and digital presence can increase students' enthusiasm for learning in higher education, especially in learning creative writing.

The eight phygital learning strategies have been applied by the authors of this article in collaborative higher education learning through technology, such as WhatsApp and YouTube, as well as in teaching with the book review method. These two methods are the main core of the application of the eight digital learning strategies. The goal is clear, which is to respect physicality and digitality. Table 2 includes the details of the strategy from the higher education perspective.

Table 2: Description of the phygital learning strategy from the higher education perspective.

Aspect of phygital learning	Description
Competence	The symbolic capital in universities is owned by lecturers who teach courses. The social capital is the student's relationship with friends outside the campus who can play a role in popularising his/her work. The material capital is the availability of the Internet network and study rooms for creative writing.
Consistency	Consistency in the application of phygital learning can be done by asking students to upload their work on social media and see how the users respond to the work.
Communication	Communication in in higher education can be on-line and off-line. On-line communication is intensive through WhatsApp groups, while off-line communication takes place during the lecture process.
Collaboration	Collaboration is achieved by involving students, communities and mass media. The more diverse communities are invited to collaborate, the more varied the work produced by the students. Collaboration also plays a role in the dissemination of student work.
Content	The content refers to pentigraph writing using technology which suits Millennials who are familiar with technological gadgets and native Internet users.
Context	The context is related to everyday problems. Through creative writing classes packed with digital learning technology, students are invited to be open about their problems, so that those problems could be used thoughtfully and responsibly as material for writing stories.
Attractiveness	The attractiveness of phygital learning can be seen through the involvement of the virtual and physical space. The virtual space ranges from Google Meet to Zoom. The physical space refers to the classroom. Lecturers have various attractive spaces, so therefore able to deliver the learning material in an interesting and engaging way.
Connection	Connectivity in physical and digital spaces is indispensable. In the physical space it is in the form of direct interaction with lecturers, peer tutorials and consultations, while the digital space refers to on-line consultation and comments on social media.

The Essence of Phygital Learning Conducted by the Phygital Community in Indonesia

The essence of the material presented by the KPI to realise the digital literacy of Indonesian people is in the form of a three-paragraph short story/narrative. Pentigraphs can be classified as short-short stories because they fulfil the external and internal structure requirements of literary works. The substance conveyed by the pentigrapher is manifested in the form of three paragraphs, while the expression of the story can be constructed through the content of the pentigraph.

The external structure and internal structure of the pentigraph as a variation of the short-short story form can be seen as a form of experimentation of the short-short story, which is relatively successful. Based on the external structure; namely, the substance and form, the pentagraph form is in accordance with the rules of writing flash fiction. The elements of prose fiction in the form of plot, setting, character and message are also present in pentigraphs. The message tends to be implied, indirect. There is a huge diversity of messages conveyed by the authors, but they are mostly expressed implicitly.

Based on the inner structure; namely, the content and expression, it can be seen that the content reflects the expression conveyed. The expression of a tragic, sad, human life story is presented through the content of the pentigraph with narration and dialogue. Suspenseful expressions can also be included through the content of a three-paragraph short story. The expression is conveyed based on the intertwining of the story, from the beginning to the end of the story.

The outer structure and inner structure of the pentigraph are continuously being enriched and repeated by the KPI as the main material in literatising the community. The public is invited to express itself through pentigraphs, and though

participation, people can increase their sensitivity, as well as humanistic skills. The KPI does not intend to create new writers, but through the pentigraph substance is able to encourage the users to be more sensitive and responsible towards the real life. That sensitivity and responsibility is then expressed through literary works published in print and on-line, which may ultimately lead to creating a society that is literate in the digital realm, as well as more sensitive about other people and the environment.

Pentigraphs are consistent with the need for literary writing in the digital era, as well as still relevant to the need for literary writing in the era of book publishing. Pentigraph materials can be adapted to print and digital media, and therefore, the authors of this article would recommend that they be used in the teaching of creative writing in higher education, especially in regard to the millennial generation who are digital natives and favour simple forms of writing, either in print or on-line

Phygital Learning Outcomes Achieved by the Phygital Community in Indonesia

Distribution of Phygital Learning

The extent of digital literacy can be seen from the distribution of works published by the KPIs, and its can be seen in the dynamism of the pentigraphers involved in it. Table 3 includes data on pentigraphic books that have been published, the numberof works and the number of pentigraphers who are actively involved in it.

Table 3: Comparison between the number of works and pentigraphers.

No.	Collections of pentigraphs - books	Number of pentigraphic works	Number of pentigraphers
1	From Perfect Robot to Alea Wants to Go to Heaven	175	46
2	Advertising Board at the Front Door	203	82
3	Laron-laron Kota	147	56
4	A Tale of Forest and Green Country	174	68
5	Names Carved in the Rock	248	152
6	Only Zero Point One	258	108
7	A Millionth of a Millimetre from Corona	268	141
8	That's All the Way to the Market	218	114
9	It's like if	189	116
10	Studio Kata	235	103
Total		2,115	

Table 3 demonstrates the dynamism of the number of pentigraphic works and pentigraphic senders from the first to the tenth book. Based on the authors' findings, from 2015 to 2023, there were 394 pentigraphers who passed the set requirements and participated in making a three-paragraph short story collection/book. The number of pentigraphic narratives they produce is unequal in each pentigraphic book.

Each pentigraph book has its own theme and each theme becomes one of the main reasons for pentigraphers to decide whether to participate in a particular pentigraph book project. Each theme is introduced by the initiator of a particular three-paragraph short story, and then other members of the KPI contribute by sending their pentigraphs in accordance with the theme. Overall there were 394 pentigraphers that passed the set requirements, as mentioned above, and they came from various regions in Indonesia.

Based on the data collected by the authors of this article, the pentigraphers are spread across 23 provinces in Indonesia, including: 1) East Java with 173 pentigraphers; 2) Central Java with 45; 3) West Java with 41; 4) Jakarta with 20; 5) Yogyakarta with 18; 6) West Sumatra with ten; 7) Riau with nine; 8) West Nusa Tenggara with seven; 9) South Sulawesi with seven; 10) Bali with six; 11) West Kalimantan with four; 12) North Sumatra with four; 13) South Sumatra with four; 14) Banten with three; 15) Lampung with two; 16) Central Kalimantan with two; 17) East Nusa Tenggara with two; 18) Jambi with two; 19) East Kalimantan with one pentigrapher); 20) South Kalimantan with one; 21) Merauke with one; 22) Bangka Belitung with one; and 23) Bengkulu with one pentigrapher.

In total, Indonesia has 38 provinces. This means that within eight years since its emergence, 61% of Indonesia has been literatised through the three-paragraph short story. The authors also found that there are 4 pentigraphers who are live abroad; namely, 1) Hong Kong with one pentigrapher; 2) Johor-Malaysia with one; 3) Wellington with one; and 4) Singapore with one pentigrapher. In addition, there were 26 pentigraphers who did not provide information about their region of residence.

Based on the distribution of pentigraphers by region, it can be seen that the largest number of pentigraphers come from the East Java region. They are followed by pentigraphers from Central Java, West Java, Jakarta and Yogyakarta. This means that the three-paragraph short story has a reasonably high acceptance in Java. On the other hand, one can

observe that the Eastern part of Indonesia has not fully embraced the three-paragraph short story. In the eastern part of Indonesia, the East Nusa Tenggara province has the highest level of recognition of the pentigraph. This finding is creates a challenge for KPI members to promote pentigraph writing and its benefits in this part of Indonesia.

Based on the collected data, it can be stated that the KPI phygital learning strategy is acceptable to various communities in Indonesia, it its various tribes and cultures. This wide acceptability has a positive impact on phygital learning strategies in higher education institutions. Phygital learning is suitable for addressing multicultural aspects, as well as diversified learning in higher education.

CONCLUSIONS

In this study the Kampung Pentigraph Indonesia (KPI) has been examined and eight phygital learning strategies have been identified:

1) connection;
2) interest;
3) context;
4) content;
5) communication;
6) collaboration;
7) consistency;
8) competence.

The eight components are used to convey the essence of digital learning, which is the skill of writing flash fiction, especially three-paragraph short stories, which are the main essence in the digital learning process. The result of the KPI phygital learning strategy is a three-paragraph short story collection/book. Over eight years, the KPI managed to publish ten books written by its members. KPI members are not writers but are willing and able to write literature. Another aspect of the digital learning process is the creation of new flash fiction writers spread across 23 provinces in Indonesia. It proves that the KPI digital learning strategy has successfully reached 61% of Indonesia.

The strategy and essence of phygital learning applied by the KPI can also be adapted by higher education institutions in in phygital learning in creative writing courses. The educational approach in phygital learning adapted from the KPI community refers to utilising phygital learning strategies, utilising pentigraphs as key materials and implementing diversified learning.

ACKNOWLEDGMENTS

REFERENCES

1. Ariani, D., Saryono, D., Siswanto, W. and Roekhan, The positive impact of *pentigraph* knowledge and digital community practice on the ability to write flash fiction. *World Trans. on Engng. and Technol. Educ.,* 21, **4**, 259-265 (2023).
2. Parth, S., Bathini, D.R. and Kandathil, G., Actions in phygital space: work solidarity and collective action among app-based cab drivers in India. *New Technol Work Employment,* 38, **2**, 206-229 (2023).
3. Ahmadi, A., Teachers as psychologist: experience in beginner level of creative writing classes using behavior modification. *Inter. J. of Learning, Teaching and Educational Research,* 18, **12**, 101-115 (2019).
4. Lawry, C.A., Futurizing luxury: an activity-centric model of phygital luxury experiences. *J. of Fashion Marketing and Manage.: an Inter. J.,* 27, **3**, 397-417 (2022).
5. Vespasiano, L., Brusaporci, S., Franchi, F. and Rinaldi, C., *Phygital Heritage Experiences for a Smart Society: a Case Study for the City of L'Aquila*. In: Handbook of Research on Implementing Digital Reality and Interactive Technologies to Achieve Society 5.0. IGI Global, 387-415 (2022).
6. Quirke, P. and AlShamsi, A.S., *Perspective Chapter: Peer Observation of Teaching in Phygital Communities of Inquiry*. In: Higher Education-Reflections from the Field. IntechOpen (2023).
7. Mele, C., Russo-Spena, T., Tregua, M. and Amitrano, C.C., The millennial customer journey: a phygital mapping of emotional, behavioural, and social experiences. *J. of Consumer Marketing,* 38, **4**, 420-433 (2021).
8. Muangasame, K. and Tan, E., Phygital rural cultural heritage: a digitalisation approach for destination recovery and resilience. *Worldwide Hospitality and Tourism Themes,* 15, **1**, 8-17 (2022).
9. Klaus, P.P., Phygital - the emperor's new clothes? *J. of Strategic Marketing,* 1-8 (2021).
10. Sui, D. and Shaw, S.L., New human dynamics in the emerging metaverse: towards a quantum phygital approach by integrating space and place (vision paper). *Proc. 15th Inter. Conf. on Spatial Infor. Theory (COSIT 2022).* Schloss Dagstuhl-Leibniz-Zentrum für Informatik (2022).

11. Batat, W., What does phygital really mean? A conceptual introduction to the phygital customer experience (PH-CX) framework. *J. of Strategic Marketing,* 1-24 (2022).

12. Ballina, F.J., Valdes, L. and Del Valle, E., The phygital experience in the smart tourism destination. *Inter. J. of Tourism Cities,* 5, **4**, 656-671 (2019).

13. Mieli, M., *Phygital*. In: Encyclopedia of Tourism Management and Marketing. Edward Elgar Publishing, 487-489 (2022).

14. Lesch, L., *Toward a Holistic Intelligence: Life on the Other Side of the Digital Barrier*. Rowman & Littlefield (2022).

15. Shofa, A.M.A. and Saputra, A.W., *National Pentigraf as Citizenship Education Innovation for Millennial Generations*. In: Empowering Civil Society in the Industrial Revolution 4.0. Routledge, 158-162 (2021).

16. Vate-U-Lan, P., Quigley, D. and Masouras, P., Phygital Learning Concept: from Big to Smart Data. (2016).

17. Murris, K. and Bozalek, V., Intra-Action. In: *A Glossary for Doing Postqualitative, New Materialist and Critical Posthumanist Research Across Disciplines,* Routledge, 70-71 (2021).

18. Kozinets, R.V. and Gretzel, U., Netnography. In: *Encyclopedia of Tourism Management and Marketing*. Edward Elgar Publishing, 316-319 (2022).

19. Kozinets, R.V., Immersive netnography: a novel method for service experience research in virtual reality, augmented reality and metaverse contexts. *J. of Service Manage.,* 34, **1**, 100-125 (2023).

20. Morais, G.M., dos Santos, V.F. and Gonçalves, C.A., Netnography: origins, foundations, evolution and axiological and methodological developments and trends. *The Qualitative Report,* 25, **2**, 441-455 (2020).