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Strategies to enhance intergenerational learning and reducing knowledge loss

An empirical study of universities

Reducing
knowledge
loss

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Abstract

Purpose – The purpose of this paper is to identify and analyze the main strategies used in organizations to enhance intergenerational learning (IGL) and reduce knowledge loss. The emphasis is on universities that have an age layered or nested structure.

Design/methodology/approach – The research is based on an integrated approach of literature search, content analysis, survey based on interviews and questionnaires and the analytic hierarchy process method. The research questions are as follows: What is the level of awareness in organizations about knowledge loss and the role of IGL in reducing its consequences? What kind of organizational structure is adequate for promoting IGL? What are the most suitable strategies for enhancing IGL and reducing knowledge loss?

Findings – Universities have a nested generational structure, which makes them adequate for IGL. The most used strategies for enhancing IGL are mentoring, intergenerational research teams and intergenerational creativity workshops.

Research limitations/implications – Empirical investigations covered only four universities. Research should be extended to a larger number of universities and also to companies.

Practical implications – Findings are valuable for organizations having an aging workforce and which want to reduce knowledge loss through the IGL process.

Originality/value – The study provides an insight look of how organizations experiencing a workforce aging phenomenon can enhance IGL to reduce knowledge loss.

Keywords Knowledge sharing, Storytelling, Intergenerational learning, Mentoring, Knowledge strategy, Knowledge loss

Paper type Research paper



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1. Introduction

Intergenerational learning (IGL) is a social process that is based on knowledge transfer between two distinct age generations. It is generated by knowledge asymmetry in the social structure and it is characterized by entropy increase, according to the thermodynamics principles. [Ropes \(2013, p. 714\)](#) defines it as being “an interactive process that takes place between different generations resulting in the acquisition of new knowledge, skills and values”. Thus, IGL is a beneficial process to both the individual and the organization. The traditional paradigm of IGL is the *family paradigm*. As [Hoff \(2007, p. 126\)](#) remarks, it has been for centuries a family process for “systematic transfer of knowledge, skills, competences, norms and values, between generations – and is as old as mankind”. In such a process, “Typically the elders or grandparents of the family share their wisdom and are valued for their role in perpetuating the values, culture and uniqueness of the family” ([Sharpe and Hatton-Yeo, 2008, p.31](#)). Children learn from their parents and grandparents languages, beliefs, values and attitudes through direct teaching and observation. Also, there are empirical findings that demonstrate that highly educated parents tend to have highly educated children ([Andreou and Koutsampelas, 2015](#)). The family paradigm lost his power in the European and American cultures, but it is still very strong in the Arab and Asian cultures. [Hamilton \(2011\)](#) examines the concept of intergenerational entrepreneurial learning in family business. He remarks that entrepreneurial learning in such an intergenerational context leads to “acquisition and development of propensity, skills and abilities to found, to join and to grow a venture” ([Hamilton, 2011, p. 9](#)). Family is a powerful learning context for human values and beliefs. [Ljunge \(2014; p. 192\)](#), while searching for evidence on the intergenerational trust transmission among children of immigrants, found that:

Trust may be more persistent among immigrants from higher trusting nations. In the high trusting Northern European context trust is persistent no matter the ancestry, while many individuals may adapt to the lower trust levels in Southern Europe by the second generation.

The research also shows that trust transmission is more significant on the mother’s side than on the father’s side. In the same perspective, [Necker and Voskort \(2014\)](#) searched for intergenerational transmission of risk attitudes. Their analysis shows that “different generations of a family indeed exhibit similar risk behavior in the choice of their occupation” ([Necker and Voskort, 2014, p. 67](#)). IGL in a family context also manifests in developing social intelligence, which contributes directly to the process of social interaction. Using two UK and US panel data sets, [Brown et al. \(2014\)](#) found a significant evidence of intergenerational links between the social interaction of parents and their children.

The new paradigm of IGL is an organizational construct based on non-uniform knowledge distribution in organizations that have an age-layered structure. Its main hypothesis is that:

[...] the generational synergy evident in familial settings could be captured in social planning models, thereby, creating opportunities for IGL and the development of meaningful relationships among non-familial older and younger generations ([Sharpe and Hatton-Yeo, 2008, p. 32](#)).

In organizations, IGL is an entropy-driven process, as knowledge transfer through different mechanisms increases the organizational entropy and contributes to the deeper

understanding of the decision-making process (Bratianu, 2011; Bratianu and Orzea, 2012). In an aging society, where retirement becomes significant, IGL constitutes one of the main processes that is able to reduce the knowledge loss and to balance the organizational knowledge dynamics. As Harvey (2012, p. 400) remarks, “To combat the dangers of corporate amnesia, intergenerational transfer of knowledge is a matter of survival”. In organizations, IGL is a special type of organizational learning that involves knowledge flows across generations (Argyris, 1999; Örtenblad, 2001; Nonaka and Takeuchi, 1995; Nonaka *et al.*, 2008). IGL contribution becomes more relevant in the current economic environment when knowledge as an intangible asset is a source of competitive advantage (Foray, 2009; Kogut and Zander, 1995; Jashapara, 2011; Johnson *et al.*, 2011; Nonaka and Takeuchi, 1995; Nonaka *et al.*, 2008).

The purpose of this paper is to identify and analyze the main strategies used in organizations to enhance IGL and reduce knowledge loss. The driving force of our analysis comes from our research performed within the framework of the European Project SILVER – Successful Intergenerational Learning through Validation, Education & Research[1]. The paper is structured as follows. First, IGL is discussed as an important part of the organizational learning process, aiming at increasing the organizational entropy and decreasing knowledge loss. Then, the research methodology is presented. It follows a presentation of the strategies designed to support IGL in companies and universities. Finally, the paper presents some research implications, conclusions and further research directions.

2. IGL in organizations

IGL can be defined as a significant organizational learning process in those organizations that have an age-layered or nested structure. That means organizations where the working force contains several generations, from young to senior knowledge workers. IGL is based on a knowledge transfer from the generation with a higher knowledge level toward the generation with a lower knowledge level. The flux of knowledge is of opposite direction with the knowledge gradient, in concordance with the general law of entropy (Ben-Naim, 2012; Georgescu-Roegen, 1999). We consider organizational knowledge as a multifield integration, based on the triple helix of knowledge perspective (Bratianu, 2013; Bratianu and Orzea, 2013). Organizational knowledge can be represented as a complex dynamics between three different fields, namely: cognitive, emotional and spiritual (Bratianu and Andriessen, 2008; Bratianu and Orzea, 2012). Cognitive knowledge defines the rational knowledge that may be captured in words and behaviors while emotional knowledge concentrates on the unconscious knowledge generated by the sensory system and transformed into feelings. Last but not least, spiritual knowledge refers to all professional and cultural values that guide our behavior and decisions. For instance, empirical research shows that “older workers want work that has a meaning, and want to feel useful in the workplace” (Lupou *et al.*, 2010, p. 2762). Therefore, we may claim that knowledge resides inside human mind and is engraved in people’s way of thinking, acting and feeling. Thus, IGL involves transferring cognitive, emotional and spiritual knowledge from the older to the younger and vice versa and it facilitates knowledge retention inside an organization’s boundaries. Yet, its efficiency depends on various factors like understanding the differences between generations and managing the sources of intergenerational conflict.

Although plenty of research has been made regarding knowledge transfer from individual to the organizational level (Bettiol *et al.*, 2012; Drucker, 1993; Nonaka and Takeuchi, 1995), the problem becomes even more important if we take into account the demographic changes. The aging population and massive retirement (European Commission, 2009; Giannakouris, 2008) significantly influence the managerial practices and policies (Préel, 2000). Employees retirement may increase knowledge loss if the organization does not comprise new measures in areas like human resources, organizational structure, working conditions (Leiphold and Voelpel, 2006) and IGL (Bratianu and Orzea, 2012; DeLong, 2004). For a better understanding of the differences between generations, managers have to take into account the fact that employees of different generations often lacking shared symbols, values or metaphors that allow them to connect abstract concepts (Kennedy, 2009). Different generations exhibit different learning styles (Costello *et al.*, 2004), different memories (Schuman and Scott, 1989) and different value priorities (Bogdanowicz and Bailey, 2002). Each of them has different needs and is stimulated by distinct inputs; what influences one generation may have no impact on the other one (Table I). If these differences are acknowledged and adjusted, they will affect employees' productivity, innovation, retention and corporate citizenship (Kupperschmidt, 2000; Westerman and Yamamura, 2007). Besides, secrecy may be installed and each employee may try to protect what he/she knows. As a consequence, knowledge transfer and IGL may not occur or it may become a very difficult process. In Table I, we present some of the most important characteristics of the old generation and young generation of employees, based on literature analysis.

Another aspect that must not be overlooked focuses on the generic undeclared intergenerational conflict (Beck and Quinn, 2012; Patota *et al.*, 2007) due to competition on the job market, a market that shrinks during economic crises. Due to these coordinates, the powerful influence of the external environment and sometimes the

Older employees	Younger employees
<p>Are more experienced and have low rates of absenteeism (Shen and Dicker, 2008)</p> <p>Are found to be reliable and to have better social skills (McNair, 2011)</p> <p>Some of them lack the ability to continue learning (Loretto <i>et al.</i>, 2007; McNair, 2011)</p> <p>Are motivated for reasons more related to self-actualization than money (Kanfer and Ackerman, 2007; Lupou <i>et al.</i>, 2010; MacDonald, 2011)</p> <p>Focus on traditional work arrangements, based on loyalty and job security (Binnewies <i>et al.</i>, 2008; Kidwell, 2003; Schulman, 2007)</p>	<p>Are less experienced and have high rates of absenteeism (Shen and Dicker, 2008)</p> <p>Some of them do not fulfill employers expectations and requirements (Furlong <i>et al.</i>, 2012)</p> <p>Have the ability to continue learning (Loretto <i>et al.</i>, 2007; McNair, 2011; Pullins <i>et al.</i>, 2011)</p> <p>Are motivated to improve current skills or gain new skills to move up the career ladder (Kanfer and Ackerman, 2007; MacDonald, 2011)</p> <p>Focus on high compensation, extremely flexible work arrangements and a healthy mix of independence and interdependence (Binnewies <i>et al.</i>, 2008; Kidwell, 2003; McGuire <i>et al.</i>, 2007; Schulman, 2007)</p>

Table I.
Characteristics of the
older and younger
employees

Believe in lifetime employment (Patota *et al.*, 2007)

Source: Adapted from Short (2014, p. 9)

development of stereotypes, the members of different generations view each other with antipathy and suspicion. Bova and Kroth (2001) argue that nowadays the potential for conflict is higher than in those days when the workforce was more homogenous. In today's environment, the managers have to pay attention to three different groups of employees who have different perception toward employment. They have to satisfy the demands of the young people who are just entering the market, just being employed and who are aiming to climb the career ladder; the ones of the older people who have contributed to the development of the organization and are aiming to retire; and those of extended age group who believe they still can facilitate organization's progress. The managers have to balance their interests and to support intergenerational knowledge transfer and learning. To do so, they need to develop the proper organizational structures, policies and strategies. Last but not least, managing the intergenerational issues and supporting IGL become even more important because age and age-related attitudes influence employees performance, job satisfaction, work relationships and in-group cooperation (Josef and Rene, 2012). In other words, against the backdrop of globalization and demographical changes, the managers have to focus on both internal and external environment. They have to understand their stakeholders' change of perspective and expectations and, at the same time, they have to facilitate knowledge creation, dissemination and reduce the knowledge loss through IGL to keep up the organizational knowledge dynamics. However, implementing IGL implies a high level of awareness concerning knowledge loss in all its forms (i.e. rational, emotional and spiritual).

These issues will be addressed in the following sections. Further, we brought forward the research methods and techniques that we have used to determine how public and private institutions deal with IGL. We developed an exploratory study and adopted a qualitative approach in which we combined the advantages of the content analysis with those generated by the analytic hierarchy process (AHP) method. The results are emphasized in the forth and fifth sections of this article. The last sections of this paper deal with implications of our research and conclusions.

3. Research methodology

The purpose of this article is to identify and analyze the main strategies used in organizations to enhance IGL and reduce knowledge loss. We used an integrated approach of literature search, content analysis, survey based on interviews and questionnaires, and the AHP method. The AHP method will be presented in Section 5. Our primary concern was to evaluate the awareness of people in organizations about aging workforce and knowledge loss due to baby boomers's waves of retirement, and how they conceive strategies to keep the organizational knowledge dynamics equilibrium, by reducing knowledge loss. That means to enhance IGL as an effective form of organizational learning and increase in the organizational entropy. Our research questions can be synthesized as follows: what is the level of awareness in organizations about knowledge loss and the role of IGL in reducing its consequences? What kind of organizational structure is adequate for promoting IGL? What are the most suitable strategies for enhancing IGL and reducing knowledge loss? We considered for the theoretical and empirical research some representative universities from our higher education system, and we extended the conceptual investigation to the economic organizations. The most part of our research has been done within the SILVER Project.

This was a Grundtvig project funded with the support of the European Commission that aimed to address the effects of demographic changes throughout Europe by developing an inclusive approach to IGL in the workplace. It was coordinated by Inholland University of Applied Sciences in cooperation with Oulu University of Applied Sciences, Brandenburg University of Technology Cottbus, the South East European Research Center, the Academy of Economic Studies of Bucharest and the University of Strathclyde.

To find an answer to these questions, we combined the advantages of using literature search and content analysis with interviews, questionnaires and the AHP method. In the first stage, we performed a literature exploratory research and content analysis of the most representative papers. We searched in ScienceDirect, Emerald, EBSCO, ProQuest and Sage Publication databases articles that had been published during January 2000 and December 2014 and had included in title, abstract or keywords one of the next phrases “intergenerational learning”, “organizational learning”, “mentoring”, “knowledge sharing” and “knowledge strategy”. Then, we analyzed the selected articles to determine their relevance for the research problem and we identified 85 relevant articles. Then, we checked the reference lists of these articles and uncovered additional studies in *Academy of Management Journal*, *Harvard Business Review*, *Strategic Management Journal*. In total, this search yielded 93 research papers. Most of them were found in three journals: *Journal of Knowledge Management* (34.12 per cent), *Development and Learning in Organizations* (18.82 per cent), *Administrative Science Quarterly* (11.76 per cent) and *Organization Science* (8.23 per cent). Other journals contributed with only one article. In the next phase, we applied a content analysis to the selected articles to find an answer to the research questions. The management researchers using content analysis (Arndt and Bigelow, 2000; Duriau *et al.*, 2007; Ferrier, 2001) leverage the conceptual and analytical flexibility granted by the method to mix inductive and deductive approaches, quantitative analysis and qualitative insights. Therefore, we chose to use the content analysis as the main research method due to its capacity of providing a replicable methodology to access a broad range of organizational phenomena, its analytical flexibility and its non-intrusive dimension. The criteria that had been taken into consideration were represented by organization’s field of activity, the organizational strategies and tools, barriers that may influence the level of their efficiency, and short- and long-term benefits.

The empirical research focused on IGL in universities, as they have a generational structure that stimulates the process of knowledge transfer across generations. Within the SILVER Project, we developed an integrated research approach composed of interviews with academic leaders, questionnaires addressed to decision-makers and for one university we applied the AHP method. We selected to work with the following four Romanian universities: the Academy of Economic Studies of Bucharest, the University of Bucharest, the University “Stefan cel Mare” of Suceava and University of Agronomic Sciences and Veterinary Medicine of Bucharest. Finally, to deepen our research, we applied the AHP method to the Academy of Economic Studies of Bucharest, considering two basic possible approaches for the faculty staff: cooperation and competition. We performed a literature analysis to find possible typologies of IGL strategies, and then we performed the empirical investigation to provide detailed answers about how organizations adopt IGL approaches.

4. Strategies supporting IGL in companies

Our literature search and content analysis revealed the fact that in the companies with a significant aging workforce there is a strategic thinking concerning the role of IGL in knowledge retention and organizational knowledge dynamics equilibrium. Among many approaches of promoting IGL, three came out of being of primary interest: mixed-age teams, mentoring and storytelling. We briefly present the main ideas of each of this approach.

Developing the approach of *mixed-age teams* reflects the company's capacity of recognizing the strengths and weaknesses that the members of each generation possess. It considers that the older employees have a high level of know-how, working morale and awareness of quality, while the younger employees have the ability and willingness to learn and also a high level of physical resilience (EQUAL, 2007; Grund and Westergaard-Nielsen, 2008; Kidwell, 2003; Sherman, 2006; Spanring, 2008; Wok and Hashim, 2013). One of the main advantages of the mixed-age teams is represented by the fact that it encourages mutual learning; the less experienced employees are acquiring new knowledge, while the experienced ones develop new skills and abilities. For example:

In a mixed-age team organized for innovation, older workers learn to use their large store of experience and expert knowledge in a way that complements the younger generation's more current knowledge of technological or societal changes (Ropes, 2014, p. 8).

The more experienced employees transfer their knowledge to the less experienced ones and, at the same time, they learn how to use the new procedures and technologies that the organization had introduced. This process is usually described as "reverse IGL" because the "deep knowledge" of the older and more experienced employees is complimented with the "broad knowledge" of the younger generation (Baily, 2009; Tempest, 2003). Thus, developing mixed-age teams becomes a two-way street: the firm supports knowledge transfer in both directions and it stimulates a knowledge increase in both categories of participants: sender and receiver. On the other hand, the influence of the mixed-age teams on employees' capacity of decision-making should not be neglected. According to previous studies (Gursoy *et al.*, 2008; Iyer and Reisenwitz, 2009; Wok and Hashim, 2013), the experienced employees motivate their less experienced colleagues to make decisions, to share their ideas in the decision-making process and they also teach them how to select the best alternative, how to prioritize the issues and how to solve problems. Still, managers must take into consideration the fact that the young employees tend to follow directions only if their flexibility to get the work done in their own way is not affected. Therefore, the relationship between employees must be based on cooperation and should not take the form of a formal educational process. Starting from this last assumption, several pitfalls come to forefront, namely: employees may not be good team players and they may concentrate on pursuing their own goals and objectives; employees may be reluctant to others' opinions; the working relationships may not be treasured; the activity may be organized around individual tasks; and there is a lack of synergy between organization's objectives, actions and strategies. Given these issues of the mixed-age teams, we argue that developing such a complex strategy requires: establishing an open organizational culture; promoting values like communication, trust and respect; cooperation and organizing the activity around mixed teams and developing employees' teamwork skills. These elements must

be developed because communicative teamwork, mutual learning and communicating feedback are positively correlated with employees' satisfaction, although the experienced employees are reluctant to give compliments to the less experienced ones for their achievements (Guan, 2009; Spender, 2014; Wok and Hashim, 2013).

Mentoring is another valuable strategy that supports IGL. It is a one-to-one process that has its roots in the ancient Greek mythology; it is still frequently used in organizations when it comes to develop apprentices' skills, competences and knowledge (Ragins and Kram, 2007; Short, 2014). It is mainly appreciated because of the fact that it puts the employees in the center of their learning needs. It is based on their capacity of understanding their limits, identifying their needs and coping with the one that could help them overcome their boundaries. By mentoring we mean the knowledge transfer from a person belonging to an older generation toward a person from a younger generation in a learning environment. This process is called *direct mentoring*. In contrast, the reverse mentoring process is when knowledge flows from a younger person toward an older one. That happens especially in the field of using high technology or new information systems. By combining both processes, we get *reciprocal mentoring*, a two-way knowledge flow. Reciprocal mentoring can be very useful to innovate complex products and processes in a dynamic environment. Mentoring can be the result of a formal intervention or it may occur as a spontaneous reaction, as a sign of fellowship. The characteristics of each of these two categories of mentoring are presented in Table II.

Both formal and informal mentoring lead to several outcomes, such as developing the feeling of inclusion, building the working morale, reducing the negative stereotypes, promoting job satisfaction, developing employees' knowledge and skills, developing the organizational knowledge base, expanding the networks and improving the level of employees' retention. The individual benefits are complemented by the organizational ones, which include improving organizational capacity either by stimulating knowledge creation and transfer or by improving organizational processes (Short, 2014; van Woerkom, 2003).

Storytelling facilitates knowledge transfer from one individual to a group of people. It seems to have a good impact on the social context (Empson, 2001) because it serves as a rare instance of the development of a Nonakian Ba (Nonaka and Takeuchi, 1995; Nonaka *et al.*, 2006; 2008). This situation appears due to the fact that stories provide the ability to communicate quickly, naturally, clearly, truthfully, collaboratively, persuasively, accurately, intuitively, entertainingly, movingly and interactively (Denning, 2000) and, at the same time, they engage all three fundamental forms of

Table II.
The characteristics of the formal and informal mentoring strategy

Characteristic	Informal mentoring	Formal mentoring
Initiator	One employee	The organization
Organization support	Absent	Present
Driving force	Similarity and attraction	Organizational agenda
Mentor and mentee selection	Self-selection	Third-part intervention
Initial emotions	Positive	Apprehension and awkwardness
Meetings	Unstructured	Structured by program facilitator
Goals	Inexplicitly expressed	Explicitly included in organizational agenda
Duration	Long term	Short term

knowledge: rational, emotional and spiritual (Bratianu, 2013; James and Minnis, 2004). Also, they facilitate knowledge sharing in a complex manner that stimulates the interactive organizational knowledge dynamics: are based on the personal and organizational values (spiritual knowledge), stimulate participants' emotions (emotional knowledge) and present the context and how skills and competences had been used (cognitive knowledge). Storytelling and sharing memories can be a bridge toward IGL and also "help seniors to step forward from isolation in order to become actively involved in a European society" (Osoian, 2014, p. 499).

5. Strategies supporting IGL in universities

We performed an extended research program of IGL within four universities: Academy of Economic Studies of Bucharest, University of Bucharest, University "Stefan cel Mare" of Suceava and University of Agronomic Sciences and Veterinary Medicine of Bucharest. This program has been developed in four phases during the period 2012-2014:

- (1) age spectrum analysis;
- (2) semistructured interviews with rectors and some vice-rectors to evaluate the level of awareness of top academic leaders concerning the need for IGL;
- (3) surveys based on questionnaires addressed to decision makers (i.e. members of the university senate and administration council); and
- (4) applying the AHP method for one of these universities to identify the most favored IGL strategy by the faculty staff.

Some of the research results have been published elsewhere (Bratianu, 2014; Bratianu and Dan, 2013; Bratianu and Orzea, 2012). In the present paper, we would like to analyze the research program in its integrality and come out with the generic strategies to be implemented in the Romanian Universities for enhancing IGL.

The first idea we would like to emphasize is that a university has got a generational structure due to its academic hierarchy and promotion policies. According to the higher education legislation, in a Romanian university, there are four generations of faculty staff: university assistants, lecturers, associated professors and full professors. These academic generations match with a good approximation the age generations, as promotions are based on academic achievements (i.e. published papers in international journals and proceedings of international conferences, published chapters in books, published books, and research grants) which require basically time to be realized. We performed a detailed age spectrum analysis for each university and tested our hypothesis concerning the age layered structure of the university. Numerical results for the four universities (i.e. U1 – University of Bucharest; U2 – Academy of Economic Studies of Bucharest; U3 – University of Agronomic Sciences and Veterinary Medicine of Bucharest; U4 – University "Stefan cel Mare" of Suceava) are synthesized in Table III.

We also performed an academic rank spectrum for each university. Numerical results are presented in Table IV.

Numerical results obtained for the age spectrum and academic rank spectrum analyses demonstrate that each university has a well-defined age generation structure, each university has a well-defined academic rank structure and both structures have four distinct layers. These conclusions show that universities are organizations where

IGL can be implemented almost in a natural way. However, we make the difference between individual incentives and a strategic implementation. We admit that in any university there are few professors or associated professors willing to share their experience with their younger colleagues. The purpose of our research is to evaluate the level of awareness of academic leadership about the need of developing strategies for implementing IGL to enhance the organizational learning and to reduce the possible knowledge loss with the retired professors at the age of 65 years.

In the second stage of our research, in the pilot universities, we designed questionnaires to be addressed to the decision-makers, i.e. to the rectors, vice-rectors, deans of faculties, heads of departments and members of the university senates. Through these questionnaires we wanted to evaluate the level of awareness of the need for IGL at the department, faculty and university levels. The decision-makers are the main contributors to the elaboration and implementation of all the policies and strategies within each university. Thus, the total number of respondents in each university constitutes the reference basis of 100 per cent in our analyses. For the University of Bucharest (U1), the reference is 83 respondents. For the Academy of Economic Studies of Bucharest (U2), the reference is 54 respondents. For the University of Agronomic Sciences and Veterinary Medicine of Bucharest (U3), the reference is 45 respondents and for the University “Stefan cel Mare” of Suceava, the number is 42 respondents. Based on the answers we received, the level of awareness of IGL phenomenon has been computed for each university and presented per cent wise in Table V.

Table III.
Age spectrum
analysis results

University (total faculty staff)	Age generation: 25-35 years old	Age generation: 36-45 years old	Age generation: 46-55 years old	Age generation: 56-65 years old
U1 (1,234)	253	498	254	229
U2 (872)	254	260	123	135
U3 (355)	55	125	107	68
U4 (361)	100	127	65	69

Table IV.
Academic rank
spectrum analysis
results

University (total faculty staff)	University Assistants	Lecturers	Associated Professors	Full Professors
U1 (1,234)	314	390	288	228
U2 (872)	245	266	155	206
U3 (355)	74	118	99	64
U4 (361)	76	164	76	45

Table V.
Levels of awareness
in the pilot
universities

Levels of awareness	University U1 %	University U2 %	University U3 %	University U4 %
IGL is nonexistent	3.6	2.0	2.5	1.0
IGL exists but is not significant	63.6	76.6	52.0	50.2
IGL exists and it is significant	42.8	21.4	45.5	48.8

These above results show that IGL exists in each university, but mostly as an incentive coming from individuals and not as a result of a well-defined and implemented strategy. That means the need to work first on the increasing level of awareness and only then on the implementing specific instruments of stimulating a general reaction for promoting IGL. Another important result of our research is the distribution of different forms of IGL practiced in each university. Numerical results are shown in Table VI. In our computations, we assumed the fact that in each university, it is possible to have several forms of IGL, thus the percentage values should not be requested to yield by addition 100 per cent. Results show that the most important form of IGL in each university is that of intergenerational research teams, and it is followed by that of mentoring. These results demonstrate that even when there is no formal strategy at the university level of enhancing IGL as an instrument of increasing the organizational level of knowledge and reducing the organizational knowledge loss, IGL is stimulated by the generational structure of the organization and by the specific knowledge-intensive activities done by the faculty staff. Comparing these results with those presented in Section 4, we see that IGL mentoring and IGL research teams/mixed-age teams are used both in companies and in universities. Storytelling is preferable in companies, while in universities, IGL workshops and IGL training programs are preferable.

The positive effects of promoting IGL at the university level identified by mostly academic decision-makers are the following: exchange of ideas, sharing experience, professional dignity, increased performance, sharing the academic values, continuity in teaching, professional synergy, increased quality of the teaching activity, transfer of good practices and learning a professional ethics.

To deepen our research on specific forms of IGL in the academic life, we performed detailed research within only one university by applying the AHP method designed by Saaty (1994). It is a well-known method used in decision-making. We selected the Academy of Economic Studies of Bucharest for our research, and we structured the AHP model as a two-level decision process. The goal of the decision process is to enhance knowledge retention in the university through IGL. The first decision level contains the main strategies proposed: (S1) – the strategy to stimulate the faculty staff attitude toward cooperation; (S2) – the strategy to stimulate the faculty staff attitude toward individual competition. The next lower level is for defining the main activities considered in this research: (A1) – the activity done for research grants; (A2) – the activity done for writing books; (A3) – the activity done for writing papers to be published in scientific journals. As is known, the AHP model includes judgments on pairs of elements through the hierarchy, one level at a time beginning at the top, based on the respondent's knowledge and according to their perceived relative importance of the factors involved. The most heavily weighted alternative outcome in the bottom level is the most likely one. We designed the specific questionnaires for the AHP model and

Forms of IGL	University U1 (%)	University U2 (%)	University U3 (%)	University U4 (%)
IGL mentoring	64.3	57.2	66.6	65.8
IGL research teams	85.7	83.6	75.7	73.1
IGL workshops	67.8	28.6	45.5	46.3
IGL training programs	21.4	14.3	33.4	9.7

Table VI.
Forms of IGL in
universities

distributed 500 questionnaires among the staff of the university. We received back as valid answers a number of 219 questionnaires. We computed step by step the answers and the individual vectors of priority. Then, we computed the composite or global priorities of the alternatives considered. The final results are presented in [Table VII](#).

These numerical global results show that the main strategy for enhancing IGL in the academic community is by working together in IGL teams for research grants (0.597 by comparison with 0.233 and 0.170). Complex research projects stimulate team member interactions, and the common responsibility drives a cooperation attitude from each member. The strategy of creating mixed-age teams has a better impact on organizational learning because research grants needs a longer time to be realized than publishing books or papers. That means the interaction period is longer and knowledge transfer can integrate much better rational, emotional and spiritual fields.

6. Research implications

Our empirical research performed in the first stage demonstrates that universities have a layered structure based on age generations. These generations result from the academic hierarchy and the time needed to achieve enough publications and research grants to fulfill each academic level of requirements. The layered structure constitutes an adequate social context for stimulating IGL. However, the semistructured interviews with the rectors and vice-rectors of these universities show that there are no policies and strategies for developing IGL. The questionnaires identified some administrative and psychological barriers in developing IGL. Based on all of these results, decision-makers can elaborate and implement strategies to enhance IGL and reduce knowledge loss with retired professors. IGL can become a powerful organizational learning process.

7. Conclusion and further research directions

IGL is a form of organizational learning that is able to stimulate knowledge transfer across generations, contributing this way to increasing the organizational knowledge level and organizational entropy level and reducing knowledge loss. IGL is a powerful knowledge transfer phenomenon in generational structure organizations. The purpose of the present paper is to share some of our research results in the European SILVER Project, designed to evaluate the level of awareness in aging organizations and to design specific instruments to implement IGL mechanisms. Empirical research has been designed for universities, as they are age-structured organizations. We selected four pilot universities from the Romanian higher education system and designed for them more specific research as interviews with academic leaders and surveys based on questionnaires addressed to the decision-makers (i.e. rectors, vice-rectors, deans of faculties, heads of departments and members of the university senates). Analysis of all the answers we got demonstrates that IGL is a known phenomenon in the academic life, but it is not significant because there are no well-defined strategies to

Activities	Strategy S1	Strategy S2	Global values
Activity A1	0.469	0.128	0.597
Activity A2	0.181	0.052	0.233
Activity A3	0.136	0.034	0.170
Total	0.786	0.214	1.000

Table VII.
Synthesis of the AHP
analysis

implement it. Moreover, we identified a series of administrative and psychological barriers in developing IGL. Based on our research, rectors, vice-rectors and deans of faculties became aware of the impact of retired professors on the loss of knowledge, and the importance of IGL in reducing that loss. Also, IGL can become a powerful organizational learning process with benefits for all stakeholders. Thus, we answered the first research question. The spectrum age analysis demonstrates that universities have layered structures based on age generations that stimulate IGL. Thus, we answered the second research question. Finally, we identified as most adequate strategies to develop IGL creating age-mixed research teams for performing research grants, mentoring and storytelling. The AHP analysis demonstrated that in the academic environment working in mixed-age teams stimulates IGL and enhance team's performance. Thus, we answered the third research question. Further research is needed to increase the level of awareness of all decision-makers about the important role played by the IGL and elaborating adequate strategies to amplify its effect at the university level. Knowledge loss can be reduced by increasing knowledge retention, which in turn, can be increased by promoting IGL. That means that IGL can become a driving force for organizational learning and an important key success factor in transforming universities in learning organizations.

Note

1. SILVER Project – Successful Intergenerational Learning through Validation, Education & Research, Project Number: 517557-LLP-1-2011-1-NL-GRUNDTVIG-GMP (www.intergenerationallearning.eu).

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Further reading

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