SENIOR WORKERS RETIREMENT AND INTER-GENERATIONAL TRANSFER OF COMPETENCIES: CRITICAL ISSUES AND OPPORTUNITIES FOR ITALIAN SMES

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1. Introduction

Italian small-medium enterprises (SME) in the clothing and footwear industries have been able over the years to strengthen their competitive advantage by offering quality products, highly requested by the fashion industry. Their main strengths and distinctive features are: a strong tradition, deep connections with their local territories, a passion for quality, and reliance on production processes based on semi-artisanal skills developed over decades of experience and practice. However, the same heritage of competencies which always constituted an essential ingredient for their competitiveness, lately is at risk of becoming increasingly impoverished because of the aging of the workforce.

The retirement of the baby boomer's generation of workers is imminent (EUROPEAN COMMISSION, 2012) that is, the same workers that contributed decisively to the birth and development of these important enterprises, which represent the backbone of the "Made in Italy" sector.

This phenomenon creates many problems to these SMEs, related to both the difficulty to manage the turn-over process, and the complexity to design human resource management systems allowing to capitalize and leverage on senior workers' know-how, which in most cases is tacit and developed through practice and experience.

In this article we provide a descriptive and interpretive contribution in order to help understand the risks that an aging workforce is producing for the SMEs of the Made in Italy sector.

Through a qualitative research on 28 SMEs in the clothing and footwear industry operating in the Veneto and Emilia Romagna Regions[1], we first describe a profile of the typical senior worker in these companies and the crucial role that he has to play as a carrier of key competencies. Then, thanks to a specific risk analysis methodology, we quantify the risks that

these SMEs run in relation to the retirement of their senior workers. Finally, based on our research results and the available literature, we propose some possible guidelines for managerial and organizational changes.

2. Theoretical framework

There are several risks related to the ageing phenomenon in western countries, not just related to the sustainability of welfare systems (Znidarsic and Dimovski, 2010). Many authors emphasized the problems that the increasing average age of workers may generate for enterprises. Some researchers focused their attention to the process of physical and mental depletion that is supposed to characterize senior workers and argued about the need to redesign tasks in a consistent way with the actual abilities of senior workers (Shephard, 2000). Others claimed that obsolescence represents the common feature of senior workers, by emphasizing their reduced flexibility in the workplace, their low propensity to change and learning (especially in relation to new technologies) and, at the same time, the need for development policies that are able to lower the age barriers (Hedge et al., 2006). Others, again, observed how generational differences generate gaps, misunderstandings and frictions in the workplace, while at the same time pointing out the usefulness of policies aimed at increasing the integration and cohesion of different generations (Zemke et al., 2000). Finally, several authors found that the loss of knowledge and know how represent the major problem related to the retirement of senior workers (DeLong, 2004), and they insist on the need of policies for the socialization and capitalization of competences.

On such basis, several researchers suggested that more research on age management is necessary (Farinelli and Gubitta, 2007) in order to identify and utilize, through an holistic, integrated and long-term vision, the significant added value that senior workers can provide (Minelli and Rebora, 2008). Such was the goal of a research on the clothing and footwear industry in which the author of this paper participated, a research that will be illustrated in the next paragraphs.

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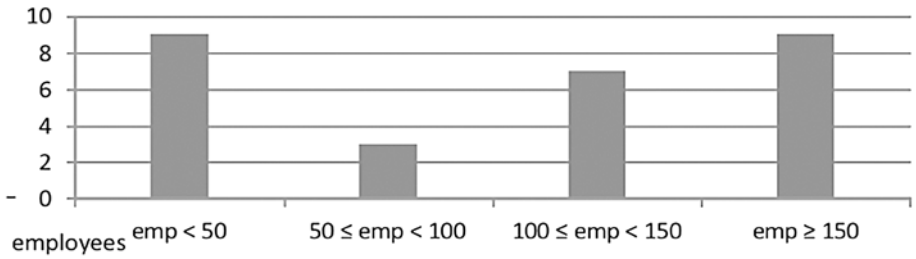
[1] This research was conducted within a larger research project called "Flexibly Beyond", which studied and experimented organizational solutions for the enhancement of the role of senior workers, with a specific focus on the apparel and footwear industries. The project was funded under the Innovative Measures of the art.6 of the European Social Fund (VS/2006/0353) and coordinated by Politecnico Calzaturiero Scarl. The author is grateful to Politecnico Calzaturiero for allowing the publication of the project's outcomes.

3. The research sample and the role of senior workers

The first stage of the research was aimed at establishing a general picture of the strategic and organizational situation of each enterprise. More specifically, the focus was on work organization arrangements, the role of senior workers and their contribution based on their skills and competencies.

Our research followed a typical action-research approach, in several stages. In the first exploratory stage, we investigated the problems related to the inter-generational transmission of competencies and the related risk factors through a qualitative approach based on open and semi-structured interviews, surveys and focus groups, with both the entrepreneurs, the human resource managers and the senior workers[2]. In the second stage, through a specific risk analysis methodology[3], we measured in quantitative terms the specific risks related to the inter-generational transfer of competencies that emerged in the first stage for a selected group of 11 companies which agreed to participate to the research project. Finally, in the third stage, we designed and implemented specific initiatives aimed at helping the companies to deal with the identified risks. In this paper we report some of the outcomes of the research project related to 28 SMEs participating to the project. These are 11 companies in the clothing industry (10 of them located in the Emilia-Romagna region and 1 in the Veneto region) and 17 in the footwear industry (5 in the Emilia Romagna region and 12 in the Veneto region). This group of SMEs is quite heterogeneous in terms of number of employees (fig. 1).

Fig. 1 – Distribution of companies by number of employees

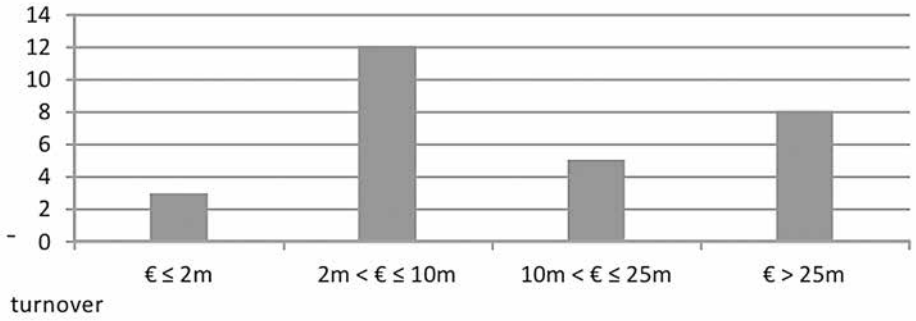


Source: our elaboration

The distribution by size of revenues also shows some variety, even though only 3 enterprises have revenues lower than 2 million euros (fig. 2).

[2] Workers are classified as "seniors" if they are 50 years or older.
[3] The methodology will be explained in detail in the next paragraphs.

Fig. 2 – Distribution of companies by revenues



Source: *our elaboration*

Most companies (about 90%) declare to be positioned in the higher segment of their respective markets (produce high quality, highly priced products), while the remaining 10% declare to produce medium-quality, medium-priced products. None of them declare to be positioned in the lower segment of the market. Almost all companies are able to be very competitive in the global markets: about 90% of them sell their products not only in Italy but all over Europe, and 96% of them export part of their production to extra-european markets. In organizational terms, the managerial style is very heterogeneous. For example, worker's participation to key decisions is systematic in 7% of cases, frequent in 36%, occasional in 36% and rare in 12% of cases. Similarly, work is coordinated through direct supervision in 46.5% of cases, decentralization in 25%, routines and procedures in 7%, while in the remaining cases there is not a dominant coordination style, because it is changed according to the specific tasks and activities. Tasks are rarely distributed evenly among the various age groups of workers. Some very specific and specialized activities required, in most companies (about 62%) that specific tasks are assigned almost exclusively to senior workers as they require a significant level of experience (activities such as tailoring, modeling, cutting, hemming, assembling, quality control, prototyping and others). These senior workers developed over time specific competencies such as deep knowledge of the company's operations and processes, particular skills related to problem solving, highly specialized ability to perform some manual activities. These competencies allow them to execute successfully some of the most crucial and valuable tasks for their enterprises. This is why there is a widespread awareness among the companies' managers and entrepreneurs that senior workers' experience, competencies, knowledge and skills must be considered among the most important elements of success. Over 60% of companies declare that senior competencies are absolutely crucial for their competitiveness, about 18% consider them as relevant (although not crucial) and only 21% consider

them as important but nonetheless replaceable. Thus, on the one hand we observe that senior workers constitute a crucial "capital" for the competitiveness of these companies, but on the other side there are difficulties related to their ability to preserve and perpetuate such capital. There are many risk factors. The main one is related to the tacit nature of the competencies.

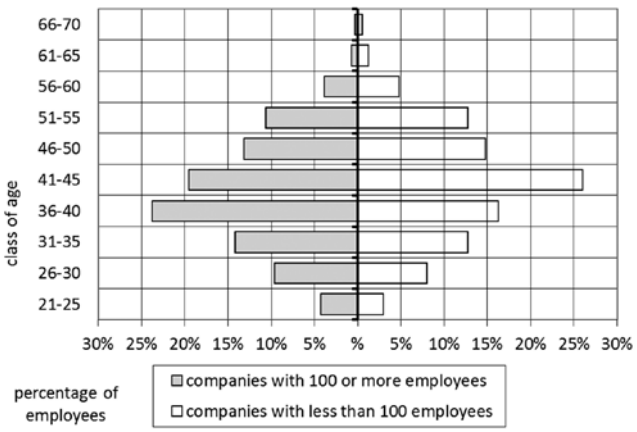
In many cases, our qualitative data show that these competencies are acquired through the work experience within the company, and their value is very idiosyncratic and context-specific.

This represents an advantage for the company, in relation to the difficulty to imitate their products and processes by outsiders. However, it also constitutes a risk and a difficult problem to solve when the senior workers have to be replaced. Things are made even more difficult when we consider that two-thirds of the companies declared that such key competencies can only be acquired and learned through years of work practice, and they cannot be easily "transferred" through formal classroom training or education.

Also, the possibility to develop mentoring and coaching programs in order to facilitate the sharing of competencies between senior and junior workers is made even more difficult by the attitude of many senior workers: in over 55% of cases, companies state that seniors are "cautious" in sharing their knowledge to junior workers, or even "hostile" (10% of cases), especially because of the cultural distance that they perceive with the younger generations.

Finally, the rapid aging of the workforce increases the relevance of such problems for these companies, since the ratio between senior and junior workers is very unbalanced, especially in smaller companies (fig. 3).

Fig. 3 - Workforce by class of age



Source: *our elaboration*

The distribution of workers by age group is not pyramid-shaped but urn-shaped instead, even more so in the small companies. A triangle-shaped pyramid, with a large base, would illustrate a situation of strong development, with junior workers more numerous than senior ones. The urn-shaped of figure 3, instead, indicates a situation in which there is a prevalence of senior workers, with a reduction of new, younger employees in recent years. This is a difficult situation to manage, with problems and risks that will be illustrated in the next paragraph.

In summary, for almost all enterprises in the sample a need to dedicate more attention to the problem of ageing seems to emerge. The fact that they are close to retirement, the duration and complexity of the training and education of young workers (due to the implicit and tacit of strategic competencies) are the major critical points emerging from this first stage of the research. We will delve into the risk analysis in the next paragraph.

4. Quantification of specific risks: Methodology

We tried to systematize our findings through a more structured and quantitative approach. The goal was to assess the level of risk related to the senior workers issue that these SMEs are facing. For this goal, we performed a Risk Analysis based on a specific methodology developed by the research team for the project's purposes. Such methodology allows to map and benchmark the firms' risk situation according to a variety of parameters. Here we will show the outcomes related to three key risk areas, named: "loss of competencies and know how", "recruitment and retention", "intergenerational relationships".

A *specific risk index* has been developed for each key risk area, which is the product of two values:

1. The "intensity" of the risk, that is, how relevant and how serious the possible consequences related to the issue under observation may become. The values range from 1 (no risk) to 10 (extremely high risk).
2. The "frequency" of the risk, that is, the number of situations in which the firm is exposed to such risk. Again the values range from 1 (extremely rare exposure) to 10 (continuous exposure).

The two parameters are obtained through structured questionnaires submitted to the firm's managers. The product of the two parameters provides a specific risk index, ranging from 1 (minimum level and frequency of risk) to 100 (maximum level and frequency).

A further step is to weigh the specific risk index with another coefficient measuring the degree of awareness and control of the firm about that risk element. In other words, it measures whether the firm is taking adequate initiatives in order to control or reduce the negative impact of such risk.

The coefficient ranges from 0.1 (maximum control) to 1 (minimum control). Thus, the general weighed risk index takes into account not just the current risk exposure of the firm, but also how well (or how badly) the firm's policies and initiatives allow to prevent or to cope with the risk exposure. The *general weighted risk index* (Risk Age Management - RAM) ranges between 0.1 (no risk) and 100 (maximum risk).

Thus, for example, a high specific risk (e.g., 90) can be greatly reduced by a high level of awareness and control (e.g., 0.4), so that the RAM index will be 90 x 0.4 = 36. On the contrary, a relatively low level of risk exposure (e.g., 40), could be not reduced by much due to a relatively low level of control and awareness (e.g., 0.9), so that the RAM index will be 40 x 0.9 = 36. In other words, the same RAM value could be the outcome of very different situations, and each single components of the index should be carefully considered in order to perform a meaningful analysis. For the same reason, it is also useful to separate different risk areas, like the three key ones that we mentioned above. Let's examine very briefly some of the results of our analysis for 11 companies[4] (see tab. 1) among those that participated to the project.

Tab. 1 - Companies' profiles

	Industry	**Region**	**Revenues**	**Employees**
SME 1	footwear	Veneto	10m < € ≤ 25m	50 ≤ emp < 100
SME 2	footwear	Emilia-Romagna	2m < € ≤ 10m	emp < 50
SME 3	footwear	Veneto	2m < € ≤ 10m	50 ≤ emp < 100
SME 4	clothing	Veneto	10m < € ≤ 25m	50 ≤ emp < 100
SME 5	footwear	Veneto	€ > 25m	emp ≥ 150
SME 6	clothing	Emilia-Romagna	10m < € ≤ 25m	100 ≤ emp < 150
SME 7	footwear	Veneto	€ > 25m	emp ≥ 150
SME 8	footwear	Veneto	2m < € ≤ 10m	emp ≥ 150
SME 9	footwear	Veneto	10m < € ≤ 25m	50 ≤ emp < 100
SME 10	footwear	Veneto	€ ≤ 2m	emp < 50
SME 11	clothing	Emilia-Romagna	2m < € ≤ 10m	emp < 50

Source: *our elaboration*

[4] We did not utilized particular criteria in order to select these 11 companies. These are companies that spontaneously accepted to participate to these specific stages of the project.

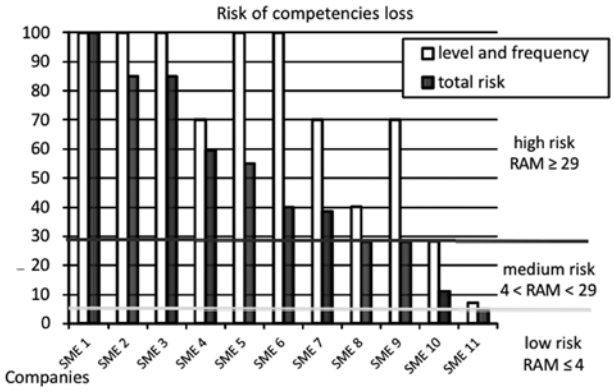
5. Risk of losing competencies

The risk of losing competencies and knowledge is related to the impoverishment of the know-how capital of the company due to the retirement of strategic senior workers who developed crucial, hard to replace competencies. In the case of the clothing and footwear SMEs, these are usually semi-artisanal competencies, often developed through many years of work practice. Not only they are difficult and very time-consuming to re-generate through traditional training and education, but they are also very context-specific, which means that they are hard to find in the labor market. Typical examples include manual dexterity, knowledge and ability to master the whole production process, capacity to identify and solve problems in the definition of product models, ability in the physical assembling and manufacturing of the product, ability to evaluate raw materials, etc. In order to quantify such risk we measured: i) the number of strategic positions (risk intensity), that is, the positions requiring key competencies as defined above; ii) the number of such positions held by senior workers that are close to retirement (risk frequency). The most risky situation is the one in which there are many strategic positions all occupied by senior workers close to retirement. This situation could severely threaten the company's solidity, even in the short term. Vice-versa, the least risky situation is the one in which there are few strategic positions (meaning that the key knowledge and competencies are well managed and socialized, so that the company does not strongly depends on single individuals and positions), and where there is a balanced distribution of the workforce by age groups.

Together with risk intensity and frequency, a third coefficient contributing to the "risk of lost competencies" indicator is the degree of awareness, measuring to what extent the company is aware of such risk and the policies implemented in order to reduce it. Examples of such policies are the identification of key competencies and personnel, training programs for junior workers, job design and work organization practices allowing the socialization of knowledge and competencies, initiatives aimed at codifying and formalizing procedures and communication flows thanks to technological means, recruiting policies specifically aimed at reducing the risks associated to the retirement of key seniors, etc. Those enterprises that systematically enact similar policies will be less exposed to the risk of losing competencies and its negative consequences.

The data collected in our research show, overall, a quite critical situation for many companies (fig. 4).

Fig. 4 – Risk of competencies lost



Source: *our elaboration*

Most companies in the sample are strongly affected by the risk of losing competencies. Only four of them seem to have a mid-level risk (even though two of these four show a RAM of 28, which is a level very close to what is considered "high" risk). Almost half of the companies have a maximum risk in terms of intensity and frequency; however, with the exception of SME 1, they adopted, in various ways, some policies and initiatives aimed at reducing the risk of losing competencies. For example, SME 2 declared to have a good knowledge of the labor market in order to recruit workers able to replace its senior workers, which is the single policy most widely adopted by most firms. In SME 3 the key competencies are almost never possessed by a single person, which is also true for SME 5 and SME 6. These companies also declared that they activated some specific policies in order to increase their attractiveness in the labor market in order to be able to recruit more easily qualified personnel. SME 4, SME 7 and SME 9 show different situations. SME 4 and SME 7 suffer more for a general aging of their workforce, up to a concerning level, even though their competencies are at least partially socialized. In SME 9, instead, there are many key positions occupied by seniors close to retirement, however the company established training programs that specifically concern those activities currently performed by those key senior employees, which reduced the overall risk to an intermediate level. It is worth noting that this is the only company in the sample which made significant investments in training programs aimed at developing "internally" the key competencies, while all other companies seem to rely much more on the possibility to acquire competencies, when needed, from the labor market. The latter represents a questionable policy for several reasons:

- The exclusive reliance on recruiting policies indicate that the companies tend to procrastinate a problem which, however, seems to be imminent. Instead, investments in training programs and other efforts aimed at capitalizing internally on available competencies might allow the companies to anticipate the problem, thereby increasing the ability to cope effectively with it.
- Relying on the labor market alone may reduce the ability of the company to control its strategic resources: the impossibility to preserve and nurture autonomously the key competencies may create a strong dependency on external factors.
- If systematic training and development programs are absent, relying on recruitment alone may just solve the problem in the short term, but it is not a long term solution.
- The situated nature of many senior workers' key competencies, developed within specific production processes, casts some doubts on the possibility that workers recruited from the outside can replace effectively and in a short period of time the retired seniors. Also, the specificity of each context might increase significantly the time and the costs of such substitution.
- The actual availability on the labor market of specific skills and competencies may be temporary, or it might change over time, to the point that the company might not be able to find what it is looking for.

Thus, a policy which does not take care directly of the direct, internal development of key competencies, in the hope that those competencies will always be available on the labor market, seems to be very risky. It is a choice that increases the uncertainty related to the search, recruitment and socialization process, a choice that might deteriorate the integrity of the company's know-how and competencies.

5. Risk related to recruitment and retention

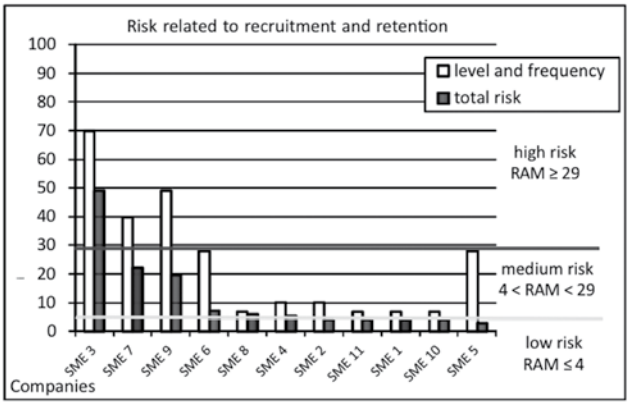
The goal of capitalizing competencies can only be achieved if companies have a young workforce to be involved in training and development programs. The availability of a young workforce ensuring an effective intergenerational transfer of know-how and knowledge is a necessary condition in order to create and increase progressively the capital of competencies. Thus, it is necessary to set-up search and recruitment initiatives on the labor market and, at the same time, to enact retention and loyalty policies of the new personnel. This is not an easy challenge. In a preliminary stage of our research we found that companies in traditional manufacturing industries such as clothing and footwear are not very attractive for young people. This risk concerns both the issues of recruiting and retention. It

can be measured both in terms of *frequency* and *intensity*. The risk increases / decreases when the turn-over of young workers is higher / lower (*frequency*). The risk increases also when the company faces higher difficulties in finding young workers with the desired features in the labor market (*intensity*). Thus, companies with a very low risk of this sort are the ones that find easily young prospects in the labor market, and have low levels of personnel turnover. The opposite is true for companies that have a hard time finding young prospects and with high personnel turnover. The two intermediate situations concern companies with high turnover but with a significant ability to recruit young people (high risk frequency, low risk level) and, vice-versa, companies with low turnover but with significant recruiting difficulties (low risk frequency, high risk level).

Examples of the possible measures that companies may take in order to deal with this risk are the following: increasing the knowledge of the labor market and the recruitment channels; policies aimed at improving the personnel development and incentives.

In our sample, only 4 companies are not significantly exposed to such risk (fig. 5).

Fig. 5 – Risk related to recruitment and retention



Source: our elaboration

All the other companies show an intermediate level of the risk indicator, with the exception of SME 3, which shows a very high risk indicator, for the significant difficulties to find and retain workforce, and for the insufficient policies adopted. If we examine in detail all the other SMEs, it is worth noting that the main factor that kept the overall risk to moderate values is the low turnover rate, which is not the outcome of specific retention policies (such policies are very rare in all observed SMEs). So, the *frequency* dimension of risk is very low. However, the *intensity* dimension of risk is

extremely high for almost all companies: 10 SMEs declared that finding workforce in their specific industry is very hard. This is a particularly dangerous situation, since it signals a quite low interest of the labor market for the job opportunities offered by these companies, a problem that cannot be directly influenced, at least in the short term, by the companies themselves. It is obviously a very threatening condition, which might create serious problem for the success and even the survival of the companies in the medium term. In the early stages of the research, several entrepreneurs and manager expressed serious concerns about the lack of institutional and territorial policies aimed at supporting the "Made in Italy" industry, a real "treasure" in economic and social terms. There is a sense by which a sort of implicit "marginalization" of this industry is taking place, something that is significantly decreasing the interest of young people for it, and thereby increasing the problem of perpetuating the relevant capital of competencies, knowledge and skills that these companies carry. It is worth noting that our data refer to the 2008-2009 years, when the economic crisis was at the very beginning. Thus, it is possible the current very difficult situation in Italy related to the very high rate of unemployment for people under 30 years of age changed somewhat the attitude of young people towards the occupational opportunities in the apparel and footwear industries.

6. Risk related to intergenerational relationships

This third kind of risk is related to the possibility of intergenerational conflicts between junior and senior workers, due to different cultures, values, attitudes. The presence of misunderstandings and miscommunication may seriously inhibit, during the mentoring and coaching activities, the socialization of knowledge and competencies. Such a risk is measured, again, in term of its *frequency* and *intensity*.

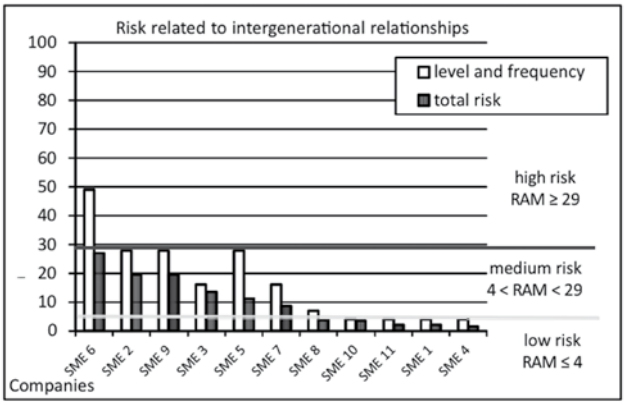
The frequency is related to the "distance" (in terms of age difference) between workers, while the intensity is related to the seriousness of work related conflicts. The worst (highest risk) situation for a company is the presence of very "distant" generations of workers characterized by significant, explicit conflicts. On the contrary, a company characterized by an evenly distributed (in terms of age groups) workforce without significant conflicts represents the best (lowest risk) situation, where the intergenerational transfer of competencies, if properly supported and managed, will find an ideal context to be developed. Intermediate situations concern the possibility of companies with very different cohorts of workers (in terms of age groups) without explicit conflicts or, symmetrically, companies with evenly distributed workers (in terms of age groups) with significant conflicts.

This risk can be reduced thanks to specific interventions aimed at faci-

litating the integration and collaboration of the various age groups (*awareness*). Examples of such policies are: shared activities and projects, frequent meetings, tutoring, promotion of a culture of change, etc.

The overall value of this risk appears to be low for 5 of the observed SMEs and intermediate for other half of them (fig. 6).

Fig. 6 – Risk related to intergenerational relationships



Source: our elaboration

It is worth noting the low values of this risk can be attributed to favorable conditions, because the difference between the first two dimensions of risk (frequency and level) and the third one (awareness) is almost always very low. In other words, very few SMEs adopt specific policies in order to avoid intergenerational conflicts. Only SME 5 and SME 6 established specific integration and socialization programs for the newly hired employees (introduction, tutoring, meeting with colleagues, etc.) or other initiatives in order to facilitate the mutual recognition of everyone's contribution in the workplace, considering both the seniority and the actual skills of each worker. Other companies, instead, do not adopt any kind of such policies, and they tend to completely ignore the dangers that intergenerational conflicts may create. Thus, even though the overall risk, nowadays, seems to be relatively low, this lack of awareness and proactivity by the companies could increase rapidly as new young employees are hired.

7. Organizational and managerial policies for the intergenerational transfer of competencies

The problem of the intergenerational transfer of competencies is quite complex as it can be analyzed along a variety of dimensions. It is possible to identify organizational and managerial policies directly related to the

various critical aspects that we pointed out in the previous paragraphs. Some policies can be people-oriented, as they may be aimed at facilitating the socialization of competencies; others can have an instrumental orientation, as they may be aimed at: i) improving the technological tools for the transfer and sharing of competencies; ii) improving the work organization arrangements in order to enhance the relevance of senior workers' competencies. Again, some policies can be designed either at the macro-level and be transversal for the whole company, or they may concern only specific areas. Some policies can be temporary or aimed at specific goals, while others can be systematic and long-term oriented. In the following pages we describe some of the policies and actions that we developed and tested empirically within our research project.

1. Support to the socialization of competencies

In this category we include a number of training and educational practices aimed at triggering and supporting the intergenerational transfer of competencies. A first group is about on the job training. The foundation of such practice is the need to give priority, in the training of novices, to a learning and development program based on practice rather than classroom settings. In the managerial and organizational literature there is an old debate about the most valuable practices in order to develop and transfer competencies and, even today, there is no homogeneous view about the concept of competency itself (Antonacopoulou and FitzGerald, 1996; Håland and Tjora, 2006; Kanungo and Misra, 1992; Sandberg, 2000) and about what are the most effective practices related to the development of competencies (Finch-Lees et al., 2005; Gray, 2007; Townsend and Cairns, 2003). Objectivistic interpretations describe competencies as something that can be decomposed into behavioral elementary units (Boyatzis, 1982; McClelland, 1973; Sanchez and Levine, 2009; Spencer and Spencer, 1993;). Other interpretations emphasize the need to consider competencies through an holistic approach (Ford and Harding, 2007; Johnston and Sampson, 1993; Sandberg and Pinnington, 2009). Similarly, it is not clear whether competencies can be codified and transferred at will (Aylen, 2012; Campion et al., 2011; Lucia and Lepsinger, 1999; Jackson et al., 2012;), or if they are the outcome of learning processes related to the subjects' participation to communities of practice (Brown and Duguid, 2002; Cook and Brown, 1999; Lave and Wenger, 1991) or to the subjects' reflection on their work processes (Maggi, 2003). In the experimental stage of our research, we tried to emphasize the situated and often tacit nature of senior workers' know-how in order to facilitate the learning by doing effort because of the high specificity of their work processes. The centrality of senior workers in this process pushed us to experiment another policy that we can call "training

for trainers". This is about training initiatives aimed at providing senior workers with the methodological tools and knowledge in order to manage more effectively their coaching and mentoring activities and, more generally, the collaborative work with junior workers. In general, the goal was to increase seniors' awareness about the relevance of their competencies and to develop their relational and communication skills that are necessary to improve the effectiveness of their relationships with younger workers. Through this training program, seniors become more aware of what are their competencies that may enrich the young workers, they become able to identify the young workers' training gaps and they try to fill those gaps through mentoring and coaching activities. This requires a high level of commitment by the senior workers, as they become responsible of the development of junior workers. Indeed, this is not just about transferring to the young workers some technical or theoretical knowledge about how to perform some work process. Instead, senior workers are responsible for the development of the junior worker in a complete and integrated way, by motivating and supporting him all along the learning process. Through his experience, the senior worker tries to trigger and improve the critical judgment ability of the young, his propensity to solve problems, his assessment skills, and his attitude towards learning. The underneath logic is not very different from what, in the current literature, is known as "apprenticeship" (and in its most advanced version of "cognitive apprenticeship") in which a novice, systematically guided by an expert, is able to develop professionally both through practice and through explicit reflection on the same practice. Many authors showed the usefulness of apprenticeship for the development and transfer of competencies between senior and junior workers (Brown and Duguid, 2001; Collins et al., 1989; Resnick, 1987). The effectiveness is related to the possibility to develop competencies within the work practice. First, the apprentice observes the expert while he performs his work process (modelling); then, in a second phase (assistance) the expert affianca the novice in the work process by supporting him (scaffolding) for the execution of his work and trying to improve the performance through repeated feedbacks. In the last phase (fading), while the novice is able to be more and more autonomous in his activity, the expert's support becomes less frequent, until the novice becomes able to fully master the task. Such a long, gradual process may greatly help the intergenerational transfer of competencies. A very different approach is the one called "school of competencies". This is another kind of training practice that we tested in our research by which in the company a sort of permanent training center is established. The goal was to create a specific place in which the technical knowledge and the "tools of the trade" could be transferred to young workers who do not have any kind of work experience in the sector. This can be very useful especially because of the lack of professional scho-

ols and training centers in the territory specifically devoted to train young workers for the kind of companies and task that we investigated in our research. Senior workers play a key role in these "schools of competencies", as they are the ones acting as "teachers".

2. Adoption of technological tools

Computer technologies may significantly support, if properly utilized, the socialization of knowledge. There is still a lively debate about how this can happen (Hislop, 2002; Roberts, 2000; Thurk and Fine, 2003; Walsham, 2001). Objectivistic literature argue that the advantages of ICTs, in terms of knowledge transfer, are mostly related to the increased ability to codify and formalize knowledge (Hansen et al., 1999); according to this view, ICTs can act as the "vehicle" through which competencies can be transferred from senior to junior workers. If one rejects the deterministic stance, then the main advantages of ICTs in terms of competencies capitalization are related to the ability to improve interactions (Johannessen et al., 2001; Symon, 2000) and organizational regulations (Barley, 1986; DeSanctis and Poole, 1994; Masino and Zamarian, 2003;).

In our research, even though some advantages related to procedures and data codification, systematization and categorization can be acknowledged, we observed significant advantages especially in terms of knowledge socialization triggered by the adoption of ICT tools and technologies. More specifically, the adoption of a Product Data Management (PDM) system, whose goal was initially to codify the prototyping activities for clothes, generated an unexpected but very valuable opportunity to open up a systematic conversation and dialogue between junior and senior workers. Thus, the adoption of PDM served as an occasion to create and develop a collaborative effort and a shared language between two generations of workers that, in such company, had always been rather "distant" from each other. In a different company, the adoption of a case based reasoning (CBR) system, implemented in order to collect design solutions and ideas for shoes prototypes, created a positive trigger for a shared reflection between junior and senior workers about the design activity. Again, the CBR system generated unexpected but nonetheless important social and organizational consequences, well beyond the intended scope of the technological artifact.

3. Work organization

The interventions about work organization that we tested in our research were aimed at clarifying the value of seniors' competencies and, at the same time, facilitating their sharing throughout the organization. Practices such as job design, team work, flexible work times and locations,

thanks to the possibility to customize tasks according to the specific abilities of each worker, may help to improve performances (Allwood and Lee, 2004; Cosgel and Miceli, 1999; Eriksson and Ortega, 2006; Fægri et al., 2010; Ortega, 2001), and to the sharing of knowledge and competencies. The advantages of flexible work arrangements are identified by (Oka and Kimura, 2005); while describing the practice of Shukko, they argue that moving middle age workers (in that case, to controlled companies) had the effect of transferring technological and managerial competencies. Similarly, internal mobility, together with team work practice, may help the socialization of knowledge acquired through long term work experience. Following the same logic, in our research we facilitated, through specific work islands, the creation and implementation of heterogeneous and semi-autonomous production teams. Team members received goals and organizational responsibilities in relation to their team. In other words, they had the chance to distribute tasks autonomously, according to the skills and competencies of each member. Thus, not only a constant interaction between young and senior workers was enacted, but also the active participation and responsibility in the organizational choices generated an incentive to superior productivity. Also, group dynamics allowed to create synergies between different competencies in the same work process, allowing a joint development of skills and abilities among all team members.

We are aware that a full understanding of the final outcomes of the actions implemented during the project would require a much longer period of observation. In any case, the results would be hard to quantify objectively. Indeed, the most significant efforts have been aimed at creating and enacting conditions that are adequate to generate changes in relation to contextual constraints and opportunities. However, some early evidences can be observed already. In some enterprises, the re-organization of work through work islands increased the flexibility of some processes, with significant advantages (that the same workers pointed out) in terms of a decrease of the repetitiveness of tasks. Also, the utilization of information technology systems for the capitalization of knowledge lead to the coding of some relevant procedures but, at the same time, allowed a constant dialogue among novices, managers and senior workers about what procedures to enact and thus facilitating, as we found in further interviews, the socialization of knowledge and know-how.

8. Conclusion

The subject of competencies' capitalization is particularly critical, especially for SMEs in traditional industry of the "Made in Italy" sector, such as the clothing and the footwear industry. While the limited number of

companies involved in our research allowed a much deeper analysis of the issues, it does not permit any generalization of the results. However, our research experience clearly shows the general relevance of the practical and theoretical problem: how to preserve and perpetuate the wealth of very valuable know-how usually available in these companies, mostly embedded in the experience of senior workers. On the one hand, it seems clear the need to implement organizational and human resource policies aimed at identifying the specific value of such competencies and to capitalize them. On the other hand, it is also clear that many companies encounter serious difficulties in the design and implementation of such policies. To make things even more complicated, there are further elements to be considered, such as the imminent retirement of a high number of key senior workers, and the problem of local contexts and territories that do not offer many opportunities for the companies. Also, the length and the complexity of the training process for new employees, the tacit nature of senior's competencies, as well as the cultural distance between different generations of workers, increase the complexity of the situation even further.

Thus, the capitalization of seniors' competencies and the intergenerational transfer of knowledge appear to be as difficult problems characterized by several, interrelated dimensions. For this reason, it is hard to imagine a single, universally valid solution. There is a number possible different strategies, closely related to the specific organizational contexts. In this paper we described a few possible interventions that we experimented in our research, but their effectiveness cannot be assessed independently from specific contextual elements that inspired their design and implementation. Also, the outcomes should be evaluated in the long term. However, we believe that the discussion of the critical points that we emphasized in this paper, and the reflection upon the possible actions, can contribute to an interpretive framework about the dynamics that are increasingly characterizing SMEs in several industries. Both the theoretical reflection on these issues, and the implementation of specific policies in order to preserve the immense economic, social and cultural value that these companies' patrimony of knowledge and competencies represents, constitute an urgent challenge that cannot be procrastinated.

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Abstract

This article concerns the intergenerational transfer of competencies in the SMEs within the traditional "Made in Italy" sector, with a specific focus on the clothing and footwear industries. These companies based their competitiveness on a relevant set of competencies which is becoming increasingly at danger because of the imminent retirement of the baby boomer generation of workers. In this contribution work we report some of the outcomes of a European research project, with a specific attention on the critical aspects and difficulties that SMEs are facing in order to manage senior workers' competencies and the possible advantages that a more focused effort toward such direction might bring. With a typical action-research approach, we first describe the risks that the retirement of senior workers may imply for the companies in terms of depletion of their competencies; then, with a specific reference to the relevant literature, we examine some possible managerial and organizational interventions that companies might activate in order to reduce such risks. Some of these interventions were successfully implemented by partner companies in the context of the research project.

Riassunto

Questo articolo prende in esame il tema del passaggio intergenerazionale delle competenze nelle PMI operanti nei settori tradizionali del Made in Italy, con particolare riferimento ai comparti del tessile e del calzaturiero. Si tratta di aziende che hanno tradizionalmente fondato il loro vantaggio competitivo su un patrimonio di competenze che ora rischia di impoverirsi a seguito del massiccio ritiro di quei lavoratori (baby boomers) ormai prossimi alla pensione che più hanno contribuito allo sviluppo e al consolidamento di queste piccole ma importanti realtà produttive. Essendo riportati parte dei risultati di una più ampia ricerca svolta nell'ambito di un progetto europeo su questo tema, nell'articolo sono esaminate e discusse le criticità che le PMI incontrano nella strutturazione di processi di capitalizzazione delle competenze dei lavoratori senior e le opportunità che dagli sforzi intrapresi in questa direzione possono derivare. In particolare, in modo coerente con la metodologia tipicamente riconducibile alla ricerca-intervento adottata durante la ricerca, dapprima sono descritti ed esaminati i rischi che il ritiro dei lavoratori senior produce in termini di impoverimento del patrimonio di competenze; successivamente, a partire dai contesti esaminati e attraverso un costante riferimento alla letteratura, sono descritte alcune azioni progettate (alcune già in parte implementate in ambito progettuale) per fronteggiare le criticità rilevate.

Jel Classification: M12

Keywords (Parole chiave): senior workers, age management, intergenerational competencies transfer; (lavoratori anziani, gestione dell'età, trasferimento intergenerazionale di competenze)

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