Employees' Skills and Organisational Commitment

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Abstract

Based on the survey Organisation, Learning and Competencies, the paper explores the relationship between skills development and organisational commitment. The findings, in general, suggest a low correlation between skills and more involvement in the organisations. Particularly, professionals show more attachment to their jobs than to their organisations, confirming that job commitment does not always imply organisational commitment.

Keywords: Organisational Commitment, Skills, Task discretion Human Resource Management (HRM)

1. Introduction

This work seeks to broaden our understanding of the distribution of technical ability and know-how of Italian employees among occupations and economic sectors in a period of important economic transformation. In particular, the aims are to present a comprehensive description of work skills in the Italian labour market and whether or not there exists a positive correlation between skills development, greater task discretion and more evolvement in the organisation.

The data are from a new national representative survey of Italian employees working in the private sector. The survey, named OLC (Organization, Learning and Competencies) has been designed by ISFOL and conducted in the years 2004-2006.

The term more appropriately found in the sociological literature to define the sense of attachment to an organisation is 'organisational commitment', which is considered strategic in periods of turbulence for the management of human resources. Organisational commitment, according some authors, 'implies identification with an organisation and acceptance of its goals and value as one's own' (Lincoln and Kalleberg, 1990, p. 22), or simply, the willingness of the individual to give higher commitment to work. In business management studies, the concept of commitment is also defined as the intensity relative to the psychological identification and employee involvement in the organisation. According to this definition, the consequences of commitment are, for example, the willingness to stay with the organisation, acceptance of the aims of the firm or, generally, the identification of employees with the values of the enterprise.

However, 'organisational commitment' does not necessarily mean job or work commitment or attachment of individuals to their work (Gallie *et al*., 1998; Lincoln and Kalleberg, 1990). Research on the labour market tells us that the skills development of individuals is not always accompanied by an increase in the sense of attachment to an organisation. At times organisational commitment and work commitment can coincide, especially in the case of the taylorist method of management. Most organisational experimentation has tried to look at both aspects of the question: to improve interest in the work as well as to establish an effective cooperative system. Important from this point of view are the pioneering works of the Tavistock Institute summarised by Davis and Taylor (1972), and Federico Butera's 1972 and 1977 essays for Italy. However, we need to remember that whoever feels committed to work looks to the growth of his/her profession independently of the organisation's results while we can also have organisational commitment and strong identity with low-skilled jobs and tight supervisory control. In this case, commitment and identity can depend on other factors such as job security – as used to be the case in private industry in Japan for formal and informal lifelong employment – or a friendly work environment. In many industries the internal climate is considered as one of most important factors for enterprise management. A worker with a strong degree of personal identification with his/her organisation would not consider a close-knit organisation restrictive, while the same cannot be said for a worker who is inclined to self-realisation and individual creativity.

However, skills development of individuals and commitment are often identified, especially in case studies, as an integral part of the human resources development process. In fact, according to Walton (1985) there exists a virtuous cycle between development of new technological and organisational systems, high quality processes and products, and quality of work and commitment. We find a similar virtuous cycle in the job re-design theory, where the growth

of job content and task discretion increases job satisfaction and consequently encourages higher commitment to doing his/her work (Gallie *et al*, 1998; Lawler *et al*., 1995).

The paper is structured as follows. First, we analyse the distribution of skills, task discretion and organisational commitment among occupations and economic sectors and then we compare skills dimensions and organisational commitment.

2. Demand for Broad skills, Competencies and task discretion

Generally, a common way of measuring abilities held by the workforce is to examine the qualifications held by the workers. Most of the quantitative studies concentrate their analysis on the trend in formal qualifications, such as an educational or vocational qualification, to identify a developing trend of skills present in the labour market. Changes in the world of production and, consequently, knowledge and capabilities, have somehow reduced the value of educational and vocational qualifications as indicators of individual capabilities sought or held (Leoni, 2006). The approach adopted in this paper aims to go beyond the traditional categories of analysis of skills, in order to establish a methodological and theoretical framework able to connect different variables such as skills, work context and learning.

These empirical indicators that are able to measure these dimensions are summarised into three groups (Ashton et al., 1999): Broad Skills, Competencies and Task discretion.

Broad Skills: The term 'broad skills' refers to the stock of knowledge required at work as measured by qualifications required to get and do the job, the time taken to learn to do the job well and the length of on the job training. The term 'skills', in this case, is used not only as an indicator of capability or dexterity, but in a broader sense where the concept of knowledge and experience predominate.

Competencies (or "Generic Skills"): Job skills that are used in varying degrees in all jobs. In other words, competencies that can have a wide application across different organisational and employment contexts as well as offering a universal basis for success in the labour market (Payne, 2004). They include: literacy skills, numeracy, physical skills, technical 'know-how', horizontal and vertical communication, planning and problem solving.

Task Discretion: This term defines the degree of employee control over detailed execution of the job.

2.1 Broad skills

In the OLC Survey, we find some very simple empirical indicators of the level of necessary ability to do the job well: school qualifications, on-the-job training and learning time.

The first indicator is the level of qualification which would have been required if someone applied to get the job the respondent currently holds. The level of qualification is measured on the basis of the Italian school system: primary school (five years), middle school (three years post primary school), high school (five years post middle school and preceding university), university (four or five years), post-degree (Masters or PhDs). It is worth pointing out that compulsory school attendance is nine years of school or to 15 years old, meaning primary school plus middle school. The second indicator is the length of on-the-job-training by colleagues or senior staff. Training time is measured with a eight-items likert scale: from "no training at all" to "more than one month". Finally, the third indicator of required ability is the time taken to learn to do well in the job. Learning time is measured with a seven items likert scale: from less than one week to more than two years. These indicators represent the level of ability required to do the job well or the stock of knowledge required from workers. Ashton et al. (1999) defined them 'broad skills'. The hypothesis is that there is a positive correlation between broad skills and job complexity.

With the aim of analysing the distribution of broad skills among Italian employees, we built an index which summarises the three dimensions (qualifications, on-the-job training time and learning time): **Index of Broad Skills**.

The method utilised to build the index is the principal component analysis (PCA). The PCA is a statistical technique that transforms a number of (possibly) correlated variables into a (smaller) number of uncorrelated variables called *principal components*. The PCA revealed that the three dimensions form part of a single component or factor, which means that the three dimensions are correlated, with an eigenvalue of 1.50 and accounting for 50 per cent of explained variance (note 1). It is worth underlining that all three scales to measure the variables go in the same direction, from negative to positive.

In Table 1 we analyse the distribution of broad skills by personal characteristics, firm dimensions, occupations and economic sectors. In interpreting the results it is useful to remember that the component scores are standardised, which means they have a mean of zero and a standard deviation of one. Therefore, a positive value means a demand for broad skills above the mean, negative below the mean. The results by personal characteristics highlight that, generally, men hold more skilled jobs than women, an average component score of 0.099 against -0.158. Moreover,

middle-aged employees (30–44) hold more skilled jobs compared to other employees. Finally, there is a direct correlation between school qualifications and broad skills: employees with higher education usually hold more complex jobs. Finally, there is a positive correlation between firm dimension and broad skills: for example large firms, of more than 500 employees, show an average component score of 0.431, whilst small firms, 1–3 employees, show a score of -0.174. Looking at the Table 1, it is quite clear that there is a positive correlation between broad skills and occupational roles. Managers, professionals, technicians and administrative personnel show a higher index compared to elementary workers, assembly-line workers and sellers. (note 2)

However, it is interesting to note that an analysis on the three dimensions (Graph 1) disaggregated showed that trade workers and personal service workers have higher indices regarding learning time, suggesting that these jobs need a substantial period of learning on-the-job rather than vocational training or school qualification.

It is clear that broad skills vary markedly between economic sectors (Table 1). The manufacturing sectors and service sectors such as 'wholesale, retail, hotels', 'transport and storage', 'real estate, renting and research' show on average a lower level of broad skills. Particularly, they show lower broad skills indices compared to the advanced sectors (information and communication technology, financial intermediation) where the new professions are more diffuse. Although in the case of learning time (Graph 2), the differences are less relevant. Sectors such as science based and scale intensive manufacturing are in an intermediate position, with the period of training and learning time longer compared to traditional services ('transport and storage', 'wholesale, retail, hotels' and 'real estate, renting, research') and similar to the advanced sectors ('communication and ICT' and 'financial and monetary intermediation').

In summary, according to several measures of job requirements – qualification, on the job training, learning time – women, on average, hold less skilled jobs than men. Moreover, as we expected, there is a positive correlation between skilled occupational roles or advanced sectors.

2.2 Competencies requested

OAC survey investigates the frequency of the usage of skills across Italian workers. The competencies are measured on a seven items likert scale, from rarely to always (zero for not applicable). Respondents were asked a series of detailed questions about their job tasks. The method utilised to analyse these questions, and build an index of competency, is a *two step* principal component analysis (Di Franco and Marradi, 2003). The first step, which we call multiple component analysis, was exploratory. The aim was to isolate the most relevant dimension among a set of variables. In the second step, we analysed separately the dimensions (components), through a confirmative principal component analysis, to get the component score of each dimension. Finally, we calculate the total index of competencies as the sum of the competencies scores weighted by variance explained by each component. (note 3)

Following this procedure, the 44 "job tasks" have been reduced to a limited number of generic competencies: 'literacy', 'reliability', 'problem solving', 'instructing, training or teaching people', 'planning and work organisation', 'customer communication', 'teamwork', 'dexterity', 'job autonomy' and 'numeracy'.

Tables 2–3 show the results of this analysis. Table 2 gives the distribution of competencies according to personal characteristics (gender, age, qualification). The analysis by gender shows that women and men differ greatly in terms of the skills used in their job. Particularly, women have values above the mean in 'customer communication' and 'numeracy', while men do better at all the others. We believe that this result can be explained, on one hand, with the positions men hold in the organisations: these tend to be higher than the ones held by women. On the other hand, women are usually employed as checkout assistants, administrative assistants and accountants, these jobs require interaction with the public and numerical ability. This result confirms the findings of the survey "Skills in Britain" (Ashton et al., 1999).

The variable age highlights that component scores are always above the average for workers aged 30–44. By contrast, they are below the average for those aged 15–29, with the exception of 'dexterity' and 'numeracy'. Finally, workers aged 45–64 show positive indices in 'instructing, training and teaching people' and 'job autonomy'. In other words, workers aged 30–44 hold jobs which require dexterity and numerical ability, while workers aged 45–64 hold jobs which require autonomy and a high level of communication skills. Finally, the qualification shows a linear trend: there is a positive connection between skills and qualification, with the exception of 'dexterity'. In this case the less skilled workers show a better score.

In the first part of Table 3, we analyse the relationship between competencies and occupational roles. Generally, high ranking occupational groups show a higher level of competencies. For example, 'managers' and 'professionals' show component scores far above average, with the exception of 'dexterity'. By contrast, workers in the less skilled occupations show component scores below average, with the exception of some specific skills such as 'dexterity' for

the assembly-line workers, elementary workers and skilled trade personnel, or 'customer communication' for the sellers.

However, there does not appear to be a polarisation or clear correlation between occupational hierarchy and type of skills. 'Managers', 'professionals' or 'technicians' show positive scores, except for "dexterity". The score of 'customer communication' is high for the personal service occupations as well as, although to a lesser extent, 'administrative occupations'. Alternatively, looking at the table vertically, we can see that many competencies are required across several occupations, such as 'literacy', 'problem solving', 'reliability', 'instructing, training and teaching people' and 'teamwork'. On the other hand, 'dexterity' and 'job autonomy' are skills more specific to some occupations.

In the second part of Table 3, we analyse the relationship between competencies and economic sectors. We have a concentration of some competencies in specific economic sectors. For example, 'customer communication' in the service sector 'wholesale, retail, hotels' gains a score far above the average, as does 'literacy' in 'transport and storage'. 'Financial and monetary intermediation' and 'communication and ICT' are the economic sectors which show almost all the skills have positive scores, far above the average, except for 'dexterity' and 'reliability'. In contrast, manufacturing sectors show all scores as negative, except for 'dexterity', 'reliability', 'teamwork', 'problem solving' and 'job autonomy'. Traditional manufacturing shows 'dexterity' and 'job autonomy' as positive; scale intensive and science based manufacturing have positive scores for 'reliability', 'problem solving', 'teamwork' and 'dexterity'.

2.3 Task discretion

In this section we analyse the level of workers' control in the execution of their job, that is, the level of task discretion. It is often argued that rising skills will be accompanied by higher levels of task discretion. This connection between task discretion and skill has been assumed in a long-standing social scientific tradition (Blauner, 1964; Braverman, 1974; Zuboff, 1988).

In the OLC Survey there are some questions which allow us to investigate this topic. The respondents were asked questions about how much choice they have in carrying out work and the level of influence they have over various aspects of it, including work effort, choice of task and method of work. Particularly, the first question provides a general picture of workers' autonomy. The more detailed questions, on the other hand, allow us to investigate the influence that workers have over specific aspects of their job: how much personal influence workers have on time and work effort, or in deciding what tasks to do or how to do the task.

The questions are:

- How much choice do you have over the way in which you do your job?
- How much influence do **you personally** have on time and work effort?
- How much influence do **you personally** have on deciding what tasks you are to do?
- How much influence do **you personally** have on deciding how you are to do the task?

The questions are measured on a seven level scale, from absolute choice to no choice at all. Table 4 shows the percentage distribution of the first question: almost 35 per cent of respondents report some broad discretion in their job (above the average). Therefore, a large number of employees perceive they have broad discretion in the way they do their job.

To analyse these results more deeply we have built a synthetic indicator, utilising the three questions on 'personal influence': **Index of Task Discretion**. The methodology is the same utilised for the previous indices, the principal component analysis. Here too, the PCA showed that the three questions form part of a single component (or factor), with an eigenvalue of 2.41 and an explained variance of 80 per cent. It means that the variables have a high correlation and a single component explains most of the variance of the variables. (note 4)

The results of this analysis (Table 5) highlight that men enjoy a higher degree of autonomy on the job compared to women. Regarding age, employees aged 45–64 enjoy more autonomy compared with younger colleagues and, finally, there is a direct correlation between autonomy and qualification held by the employees. Therefore, as we expected, employees with higher qualifications and of middle age usually enjoy a higher degree of autonomy in comparison with their colleagues.

If we look at the data by firm dimension, we note that there is almost a linear correlation between establishment dimension and autonomy: employees who work in small firms enjoy higher control in their job than employees who work in large firms.

Graphs 3 and 4 provide a picture of the extent of influence that employees have over specific aspects of their job task by occupation and economic sectors. As we expected, job control is positively correlated to the hierarchical position in the organisation. For instance, manager and professionals enjoy a job autonomy far above the average. This finding is also consistent with the argument that task discretion and skills are positively correlated.

The economic sectors where employees enjoy more job control are: 'communication/ICT' and 'financial and monetary intermediation'. Conversely, the economic sectors where employees enjoy less job autonomy are manufacturing sectors, particularly in the scale intensive sector.

3. A virtuous cycle between skills and organisational commitment?

3.1 Organisational commitment

Organisational commitment, as we have already underlined, is a multi-faceted concept: hard work, involvement with organisational activities, and implicit and explicit identification with organisational values. In this case, as Lincoln and Kalleberg (1990) explain, the company's fortune matters to the worker. The committed employee's involvement in the organisation takes on moral overtones, and his/her stake extends beyond the satisfaction of merely personal interests in employment, income, and intrinsically rewarding work. The employee becomes conscious of the needs of the organisation and sensitive to how his or her actions contribute to the fulfilment of those needs. To identify with the organisation, then, implies that the worker is willing to expend effort for the sake of the company, and the firm's performance is experienced as a personal success or failure as well. Moreover, committed employees are loyal to the organisation, feel personally defensive when it is threatened and desire to maintain the employment relationship even when presented with an attractive alternative.

In the OLC questionnaire there are questions which allow us to analyse organisational commitment on the basis of this affective dimension (see Table 6 for questions details).

The response scale was on seven levels: completely disagree, strongly disagree, disagree, indifferent, fairly agree, mostly agree, completely agree. Table 6 gives the percentage distribution of employees who fairly agree, mostly agree and completely agree with the statements. To simplify the presentation we aggregated 'fairly agree' and 'mostly agree' in 'agree', leaving only 'completely agree'.

Looking at the table, it is clear that the majority of employees express quite a positive view of their organisation. Most of the employees 'fairly' agree with the statements which presume employees' organisational commitment. However, it is interesting to underline that the percentage in the last two statements, about internal and external mobility, are much lower in comparison with the others, and only a minority of employees show a strong organisational commitment. The statements which show the highest positive score are 'proud' and 'work hard', a small percentage of employee feel little loyalty to the organisation. However, employees strongly attached to their organisation are a small percentage. The items with the lowest score are 'to take any job' and 'turn down a job with more pay'. In this case the questions are more demanding. The respondents, in order to prove their sense of attachment to the organisation, have to be willing to turn down a better job or to take any job in the organisation. Approximately 37 per cent of the workers express a willingness to be flexible over the job they do and only 20 per cent would stay with the organisation in the face of better pay. Therefore, in general, Italian workers are not hostile to their organisation, but their sense of attachment is linked to the costs, in terms of quality of job or the loss of higher pay with another employer. These last results are particularly interesting in the light of the current debate concerning flexibility.

To analyse these aspects more deeply, we have built, also in this case, a summary indicator: **Index of Organisational Commitment**. The index has been built using the seven questions above. The item on loyalty was reversed to give consistency to the direction. As for the previous indices, we used the principal component analysis to find the latent dimensions among the variables. The PCA showed here too that the seven questions are part of a single component, with an eigenvalue of 3.41 and variance explained of 50 per cent. (note 5)

Table 7 gives the distribution of the index of organisational commitment by personal and firm characteristics. Regarding personal characteristics, as we have seen before for the skills dimensions, men are more attached to the organisation they work for than women, as well as employees aged 45–64 compared to younger colleagues. Finally, there is a linear relationship between organisational commitment and qualification held. Employees with higher qualifications usually show more attachment to their organisation. It comes as no surprise that the middle-aged male with high education shows more attachment to his organisation than other employees or women. It depends on the jobs they hold: they usually hold more complex jobs and enjoy more job autonomy by comparison to women and younger colleagues.

In Graphs 5 and 6 we give the distribution of organisational commitment by occupation and economic sector. In

general we could say that, if we look at Graph 5, there is an imperfect correlation between organisational commitment and occupational hierarchy, unlike that observed for broad skills, competencies and task discretion. In fact, although managers show the highest organisational commitment and assembly-line workers and manual workers the lowest, it is interesting to note that professionals and personal service occupations show organisational commitment far below the average. We can, in part, explain these results by looking at the composition of occupational groups. The professionals group is mainly composed of engineers, doctors, lawyers, architects and programmers. All these professions come from a long tradition of freelance work; even though our sample includes only employees, we can safely assume that most of these employees have a second job as a freelance. The doctors are a typical example: most of them work for the public health service but at the same time they have a doctor's surgery. Similarly, most engineers, lawyers and architects work in private practice, often as trainees, hoping to set up their own practice in the future. These work conditions induce them to be more attached to their job then the organisation they work for.

The other unexpected result is the organisational commitment, far below the average, of personal service occupations. As for professionals, if we look at group composition we might better understand why they have an organisational commitment below average. The personal service group covers occupations whose tasks involve the provision of a service to customers. The main tasks associated with these occupations involve the care of the sick and elderly, the supervision of children, the care of animals, and the provision of travel, personal care and hygiene services. Most of the occupations in this group require a good standard of general education and vocational training. To ensure high levels of integrity, some occupations require professional qualifications or registration with a professional body. Gallie et al. (1998) found in their research that the highest level of job involvement was among those whose work predominantly involved people, meaning that they found their work to be interesting and all-absorbing. In general, it might be expected that jobs involving higher levels of skills and responsibility, like most of the personal service occupations, would be associated with a higher degree of job involvement. The low score in organisational commitment could underline a lack of opportunity for these employees to use their ability, and with their ability to use their own initiative.

If we analyse organisational commitment by economic sectors (Graph 6), as we expected manufacturing sectors show a very low score. Less expected are the scores, far above average, of the 'wholesale, retail, hotels' sector, and the negative score, far below average, of the 'Communication/ICT' sector. As before, we can try to explain these results by looking at the sector composition.

The 'wholesale, retail, hotels' sector shows a relatively high share of small firms compared to the other service sectors; more than 70 per cent of firms are under 15 employees. As we have seen before (see Table 7), employees who work in small firms show more attachment to their organisation than employees in large firms. Finally, we could explain the low organisational commitment in "Communication/ICT Sector" by looking at the combination of high skilled employees (i.e. software engineers) and high quota of atypical work in this sector.

3.2 Skills, task discretion and organisational commitment

Finally, we have to answer the question about the relationship between the level of skills, task discretion and organisational commitment. New technological and organisational systems, high quality production processes and products, quality of work and commitment are parts of a virtuous cycle which favours the development of the economy and enterprise. We can have a high level of commitment to work without having the same level of commitment to the organisation, or vice versa. In fact, we should be aware that commitment and work identity could be the result of other factors such as job security and a friendly work environment, rather than broad skills, competencies or task discretion. Although, this does not mean that we cannot have a positive correlation between the individual dimension of commitment and organisational commitment.

To answer this question, we compare the indices of skills dimensions, task discretion, and organisational commitment by personal and firm dimensions (Table 8). As we expected, there exists a correlation between skills, task discretion and organisational commitment. Male employees aged 30–44 with higher qualifications, holding more skilled jobs and enjoying more discretion, show an organisational commitment above average.

Graph 7 shows a positive correlation between occupational hierarchy, skills, task discretion and organisational commitment. For example, managers have all positive indices, whilst elementary workers and assembly-line workers have negative indices. However, it is interesting to note that professionals show positive indices, above average, regarding the three professional dimensions (broad skills, competencies and task discretion), even higher than managers, and below average for organisational commitment. In fact, most of the occupations in the professionals group require a high level of knowledge and experience, justifying the high scores on skills dimensions and autonomy. Nevertheless, they show an organisational commitment far below the average. This

result confirms, first of all, the hypothesis expressed in the previous paragraph, that professionals are more job-committed than organisation-committed; and following on from that, the correlation between job and organisational commitment does not always exist (as classical sociology on work and organisation has always maintained), underlining the latent or explicit conflict between professionals and organisational structures.

Analysing the indices of semi-professionals (personal services occupations), they have positive indices of broad skills and competencies and negative indices of task discretion and organisational commitment. Personal services employees, as we have already underlined, are highly involved in their work and enjoy more complex work and exercise responsibility. But as we can see from the graph, Italian employees in this role show a low control over their work. Thus, the combination of high job involvement and low task discretion, we believe, could explain the very low organisational commitment of personal services employees.

Graph 8 shows skills, task discretion and organisational commitment by economic sector. As we expected, manufacturing industries show a 'fordist' situation: a low level of broad skills and competencies corresponds to a low level of task discretion and organisational commitment. The science based manufacturing industry represents a slight exception; the index of broad skills is a little above the average.

Service sectors present a more heterogeneous situation. The 'financial and monetary intermediation' sector shows a virtuous cycle between professional qualification and organisational commitment. As we expected in a 'post-fordist' industry, a high level of skills and autonomy corresponds to high organisational commitment. However, 'wholesale, retail, hotels' and 'real estate, renting, research' present a more intricate situation. The former sector shows a low degree of skills and a high degree of discretion and organisational commitment, underlining a situation where experience on the job is more important than qualification. The real estate sector shows broad skills and organisational commitment below average, with competencies and discretion above average. Also in this case, experience seems to be important for the job, but in contrast to the previous sector, the competencies involved in daily work are more complex. This could raise the expectations of employees and explain their negative organisational commitment. Finally, we have the 'Communication/ICT' sector. It presents all indices above the average, except for the organisational commitment index which is far below average. It means that employees with high qualifications who enjoy some job autonomy show a low degree of attachment to the organisation, in contrast with the theory of a virtuous cycle between professional qualification, task discretion and organisational commitment. We could explain this result on the basis of the new trends in the labour market. 'Communication/ICT' is the sector where it is more diffuse: the atypical work on one side; and on the other, high levels of education held by the employee, and the complex competencies involved in their daily work which raise work expectations. So, a mix of precarious work, high professional qualification and high work expectations could explain the very low organisational commitment in this sector(Passarelli, 2004). (note 6)

Therefore, the hypothesis that higher commitment and fidelity to the organisation is linked to the development of skills has not been confirmed in either of the cases we analysed, particularly for professional occupations and advanced economic sectors. Other factors, often present in personnel policy, contribute to the higher involvement of employees, and this is particularly so for skilled workers who are of paramount importance to enterprise performance.

4. Conclusion

This paper address two question the distribution of skills between occupations and economic sectors and the relationship between skills development, task discretion and organisational commitment. Unfortunately, the survey allows us an examination of these aspects in Italy at only one point in time, because we have no comparable data for previous years.

As we expected, skills and task discretion are positively correlated with the hierarchical position in the organisation. Manager and professionals, in general, are the occupational roles who use more skills in their work and enjoy more control over the job. Looking at the economic sectors, there is a positive correlation between skills, job control and advanced sectors ("communication/ICT" and "financial and monetary intermediation")

Regarding the second question, the findings show that there is an imperfect correlation between skills development and organisational commitment. Therefore, the hypothesis of a virtuous cycle between new technological and organisational systems, high quality productive process and products, and development of skills and organisational commitment, is not confirmed in our analysis. Particularly, this cycle is not confirmed for professionals and personal services workers and advanced sectors. Professionals show high levels of skills and autonomy; nevertheless their organisational commitment is below the average. According to our hypothesis they are more attached to their jobs than to their organisations, confirming that job commitment does not always mean organisational commitment. Personal services occupations show broad skills and competencies far above average and task discretion and

organisational commitment below average. Those are jobs with a high level of involvement. In general, we would have expected a positive correlation between high skills, job autonomy and job involvement. The low level of organisational commitment of the personal services employees could be explained by a lack of opportunity for them to use their ability, and with their ability a certain degree of control on the job, as underlined by the low level of task discretion. Our analysis shows that there is an imperfect correlation between professional qualification and organisational commitment. In this case, it could be dependent on other factors such as job security, lifelong employment, or a friendly work environment.

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Notes

Note 1. *alpha* di Cronbach 0.50, test di *sampling adeguacy* di Kaiser-Meyer-Ohlin 0,60, test di *sphericity* di Barlett p<.000

Note 2. Standard Occupational Classification 2000, 1 digit. For details see website: www.statistics.gov.uk.

Note 3. For the detailed procedure see the methodological note on the website www.oac-isfol.it.

Note 4. di Cronbach 0.88, test di *sampling adeguacy* di Kaiser-Meyer-Ohlin 0,72, test di *sphericity* di Barlett p<.000

Note 5. *alpha* di Cronbach 0.80, test di *sampling adeguacy* di Kaiser-Meyer-Ohlin 0.86, test di *sphericity* di Barlett p<.000

Note 6. Atypical work refers to employment relationships not conforming to the standard or 'typical' model of full-time, regular, open-ended employment with a single employer over a long time span.

Table 1. Index of broad skills by personal and firm characteristics

	Mean	Std. Deviation
Gender		
Male	0.099	1.040
Female	-0.158	0.911
Age groups		
15–29	-0.164	0.905
30–44	0.077	1.000
45–64	0.014	1.069
Qualification held		
Compulsory school	-0.632	0.909
Professional qualification	-0.067	0.893
High school leaving certificate	0.348	0.871
Degree + post-degree	0.811	0.795
Establishment dimension		
1 – 3	-0.174	0.871
4 – 9	0.043	1.011
10 – 15	-0.002	0.918
16 – 49	-0.092	1.018
50 – 99	-0.062	0.944
100 – 499	0.161	1.118
500 – w	0.431	0.998

Table 1. Index of broad skills by personal and firm characteristics (*continued*)

	Mean	Std. Deviation
Occupation		
Managers and Senior Officials	1.138	0.809
Professional Occupations	1.160	0.658
Associate Professional and Technical Occupations	0.867	0.852
Administrative and Secretarial Occupations	0.448	0.769
Skilled Trades Occupations	0.061	1.003
Personal Service Occupations	0.260	0.524
Sales and Customer Service Occupations	-0.226	0.904
Process. Plant and Machine Operatives	-0.524	0.842
Elementary Occupations	-0.786	0.787
Economic sector		
Manufacturing: traditional	-0.284	0.833
Manufacturing: scale intensive	-0.114	0.957
Manufacturing: science based	0.076	0.980
Services: wholesale. retail. hotels	-0.128	0.979
Services: Transport. storage	-0.082	0.977
Services: Communication. ICT	0.650	0.904
Services: Financial and monetary intermediation	0.919	0.854
Services: Real estate. renting. research	-0.095	1.040

Table 2. Index of competencies by gender, age and qualification held

	Literacy	Reliability	Problem Solving	Instructing, training and teaching people	Planning and work organisation	Customer communication	Teamwork	Dexterity	Job autonomy	Numeracy	Total Index of competencies
Gender											
Male	0.019	0.034	0.099	0.092	0.090	-0.014	0.100	0.188	0.050	-0.011	0.028
Female	-0.030	-0.053	-0.158	-0.146	-0.144	0.023	-0.159	-0.299	-0.080	0.018	-0.044
Age											
15–29	-0.145	-0.061	-0.138	-0.225	-0.158	-0.033	-0.068	0.051	-0.107	0.011	-0.074
30–44	0.095	0.008	0.044	0.054	0.057	0.023	0.024	0.001	0.005	0.057	0.038
45–64	-0.039	0.045	0.054	0.122	0.047	-0.011	0.021	-0.053	0.098	-0.122	0.000
Qualification held											
Compulsory School	-0.621	0.040	-0.405	-0.324	-0.436	-0.398	-0.141	0.375	-0.133	-0.512	-0.252
Vocational Training	-0.198	-0.082	-0.025	0.016	-0.040	-0.064	-0.035	0.234	-0.084	-0.096	-0.071
High School Certificate	0.391	0.005	0.225	0.120	0.246	0.227	0.073	-0.272	0.083	0.296	0.153
Degree + post degree	0.854	0.017	0.455	0.649	0.509	0.523	0.263	-0.604	0.301	0.682	0.354

Table 3. Index of Competencies by occupations and economic sector

	Literacy	Reliability	Problem solving	Instructing, training and teaching people	Planning and work organisation	Customer communication	Teamwork	Dexterity	Job autonomy	Numeracy	Total Index of Generic Skills
Occupations											
Managers and Senior Officials	1.011	0.253	0.812	1.474	0.944	0.860	0.796	-0.369	0.524	0.682	0.520
Professional Occupations	1.046	0.322	0.783	0.630	0.773	0.310	0.586	-0.620	0.563	0.546	0.470
Associate Professional and Technical Occupations	0.657	0.237	0.651	0.607	0.646	0.556	0.294	-0.455	0.445	0.354	0.330
Administrative and Secretarial Occupations	0.678	-0.080	0.282	0.203	0.327	0.290	0.028	-0.605	0.064	0.620	0.241
Skilled Trades Occupations	-0.337	0.179	0.171	-0.075	0.039	-0.353	0.129	0.735	0.091	-0.339	-0.073
Personal Service Occupations	0.560	0.136	0.368	0.224	0.291	0.820	0.009	-0.369	0.191	0.085	0.241
Sales and Customer Service Occupations	-0.287	-0.168	-0.162	0.057	-0.050	1.045	-0.214	-0.336	-0.179	-0.097	-0.098
Process, Plant and Machine Operatives	-0.612	0.125	-0.388	-0.403	-0.529	-0.598	-0.120	0.572	-0.181	-0.517	-0.249
Elementary Occupations	-0.697	-0.225	-0.598	-0.394	-0.450	-0.380	-0.213	0.242	-0.152	-0.597	-0.319

Table 3. Index of Competencies by occupations and economic sector (*continued*)

	Literacy	Reliability	Problem Solving	Instructing, training and teaching people	Planning and work organisation	Customer communication	Teamwork	Dexterity	Job autonomy	Numeracy	Total Index of Competencies
Economic Sectors											
Manufacturing: traditional	-0.337	0.128	-0.086	-0.240	-0.197	-0.415	-0.143	0.366	0.019	-0.214	-0.121
Manufacturing: scale intensive	-0.117	0.104	0.050	-0.108	-0.087	-0.362	0.056	0.240	-0.004	-0.077	-0.035
Manufacturing: science based	-0.069	0.025	0.006	-0.043	-0.169	-0.340	0.164	0.316	0.000	-0.134	-0.027
Service: wholesale, retail, hotels	-0.135	-0.167	-0.126	0.076	0.063	0.428	-0.075	-0.123	-0.034	0.025	-0.050
Service: Transport, storage	0.171	-0.026	-0.174	-0.233	-0.073	-0.184	-0.229	-0.137	-0.199	-0.128	0.007
Service: Communication, ICT	0.391	-0.059	0.255	0.181	0.264	0.206	0.163	-0.372	0.066	0.060	0.146
Service: Financial and monetary intermediation	0.872	0.129	0.528	0.576	0.462	0.892	0.393	-0.693	0.110	0.775	0.379
Service: Real estate, renting, research	0.237	0.007	-0.016	0.104	0.071	-0.004	-0.055	-0.249	0.085	0.146	0.075

Table 4. Employees task discretion

	%
Absolute (Total)	2.7
A great deal of choice	9.9
Quite a lot choice	23.1
On the average	38.5
Some choice	13.6
Hardly any choice	6.9
No choice at all	5.4

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Table 5. Index of task discretion by personal and firm characteristics

	Mean	Std. Deviation
Gender		
Male	0.074	1.001
Female	-0.117	0.987
Age groups		
15–29	-0.131	0.970
30–44	0.016	0.993
45–64	0.101	1.029
Qualification held		
Compulsory school	-0.238	1.093
Professional qualification	-0.030	0.992
High school leaving certificate	0.131	0.929
Degree + post-degree	0.321	0.758
Establishment dimension		
1 – 3	0.170	0.913
4 – 9	0.154	0.917
10 – 15	-0.040	0.943
16 – 49	-0.083	1.121
50 – 99	-0.117	0.965
100 – 499	-0.157	1.057
500 – w	-0.205	1.030

Table 6. Organisational commitment (%)

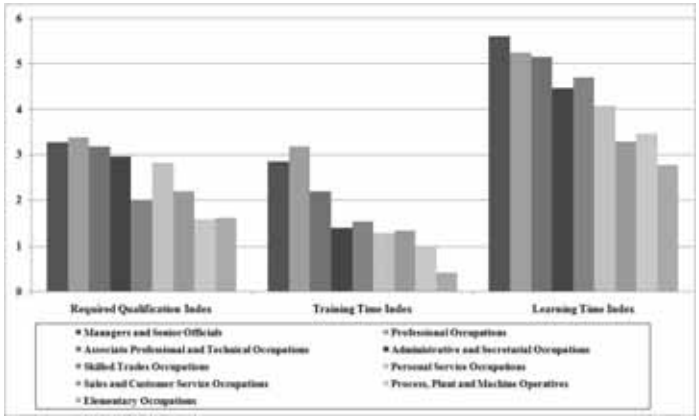
	Agree	Completely agree
I am willing to work harder than I have to in order to help this organisation succeed	55.6	12.1
I feel little loyalty to this organisation	13.4	1.9
I find that my values and the organisation's values are very similar	48.8	6.7
This organisation really inspires the very best in me in the way of job performance	52.3	7.0
I am proud to be working for this organisation	59.1	11.7
I would take almost any job to keep working for this organisation	37.2	6.5
I would turn down another job with more pay in order to stay with this organisation	20.1	4.1

Table 7. Index of organisational commitment by personal and firm characteristics

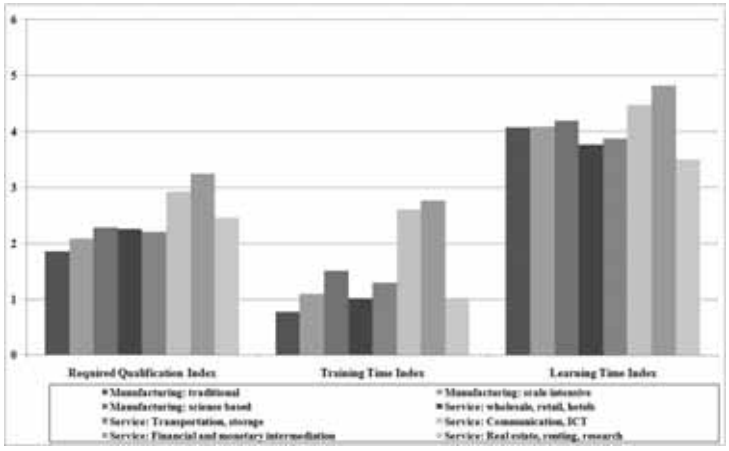
	Mean	Std. Deviation
Gender		
Male	0.039	0.99
Female	-0.062	1.02
Age groups		
15–29	-0.056	0.993
30–44	0.010	1.030
45–64	0.036	0.943
Qualification held		
Compulsory school	-0.116	1.105
Professional qualification	-0.018	0.904
High school leaving certificate	0.079	0.969
Degree + post-degree	0.068	0.892
Establishment dimension		
1 –- 3	0.170	0.965
4 –- 9	0.191	0.937
10 – 15	-0.092	0.964
16 – 49	-0.184	1.035
50 – 99	-0.141	1.008
100 – 499	-0.090	1.099
500 – w	-0.069	0.885

Table 8. Skills, task discretion and organisational commitment

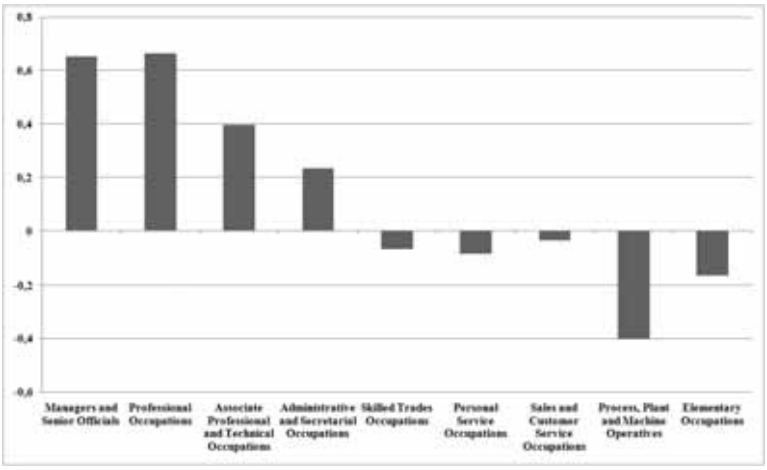
	Index of Broad Skills	Total Index of Competencies	Index of Task Discretion	Index of Commitment
Gender				
Male	0.099	0.028	0.074	0.039
Female	-0.158	-0.044	-0.117	-0.062
Age				
15–29	-0.164	-0.074	-0.131	-0.056
30–44	0.077	0.038	0.016	0.010
45–64	0.014	0.000	0.101	0.036
Qualification held				
Compulsory School	-0.632	-0.252	-0.238	-0.116
Vocational Training	-0.067	-0.071	-0.030	-0.018
High School Certificate	0.348	0.153	0.131	0.079
Degree + post degree	0.811	0.354	0.320	0.067
Establishment dimension				
1 – 3	-0.174		0.170	0.170
4 – 9	0.043		0.154	0.191
10 – 15	-0.002		-0.040	-0.092
16 – 49	-0.092		-0.083	-0.184
50 – 99	-0.062		-0.117	-0.141
100 – 499	0.161		-0.157	-0.090
500 – w	0.431		-0.205	-0.069



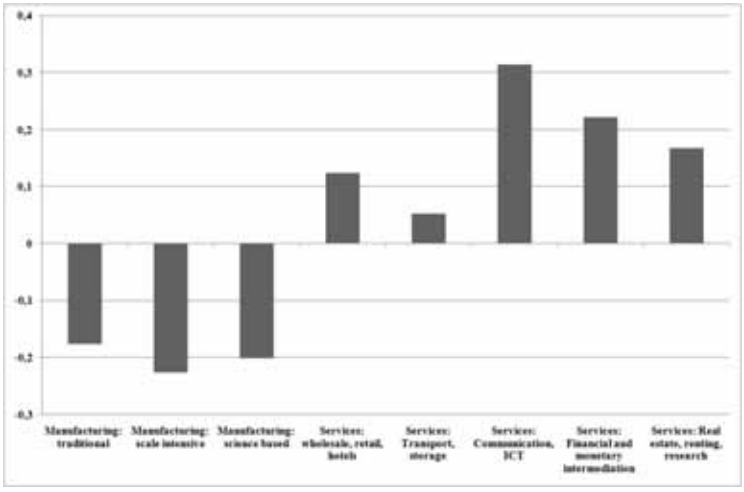
Graph 1. Broad skills by occupation



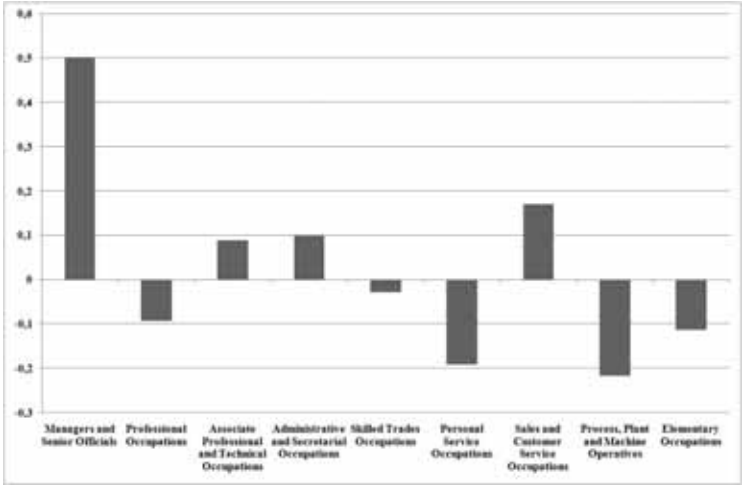
Graph 2. Broad skills by economic sector



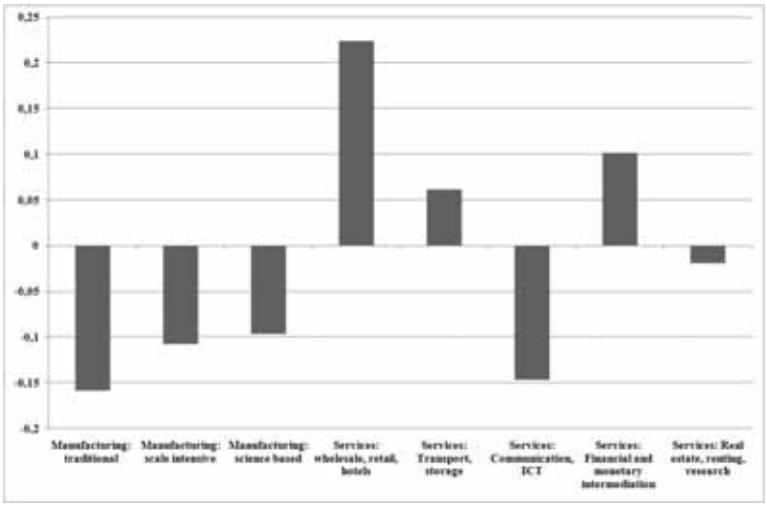
Graph 3. Index of Task discretion by occupation



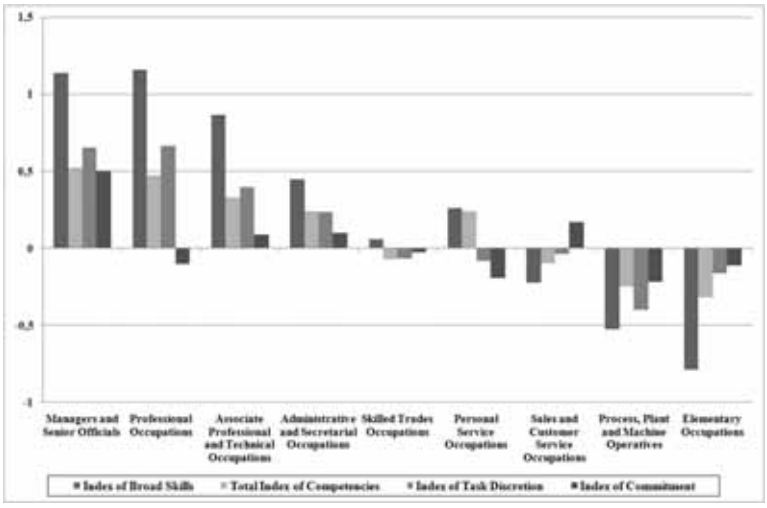
Graph 4. Index of Task discretion by economic sector



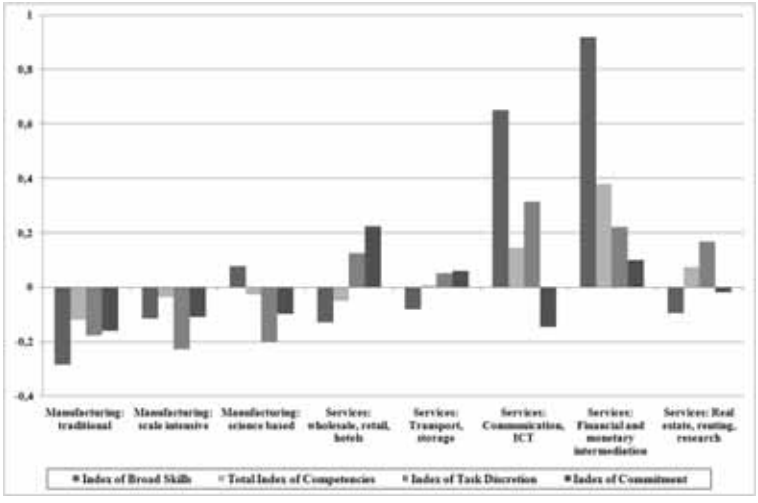
Graph 5. Index of Organisational commitment by occupation



Graph 6. Index of Organisational commitment by economic sector



Graph 7. Skills, task discretion and organisational commitment by occupations



Graph 8. Skills, task discretion and organisational commitment by economic sectors