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FlexWork

Smart Way of Working

"Work smarter not harder" is the concept of a new way of working, in order to be competitive in the technology-based economy. "Smart organisations", or "Dynamic Networked Organisations", are knowledge-driven entities that learn from their experiences, so that they can rapidly adapt to new organisational forms and practices to become the winners in the competitive market.

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These smart organisations depend on the motivated people acting on the need of the hour or getting the work done by attracting skills at competitive costs wherever they are available. Such organisations make use of low costs and reliable tools, workflow management and co-ordinated planning across the entire network of involved team members. Knowledge management is an essential component of a smart organisation. New methods of working imply new approaches to workplace design, which will ensure safe working conditions, enhance creativity and productivity, and improve the quality of working life. Designers of e-workplaces should also consider their impact on the environment. This paper discusses the flexible working issues and shows some examples how the SMEs (Small and Medium scale Enterprises) can benefit adopting such a concept in running their business for the satisfaction of all actors involved.

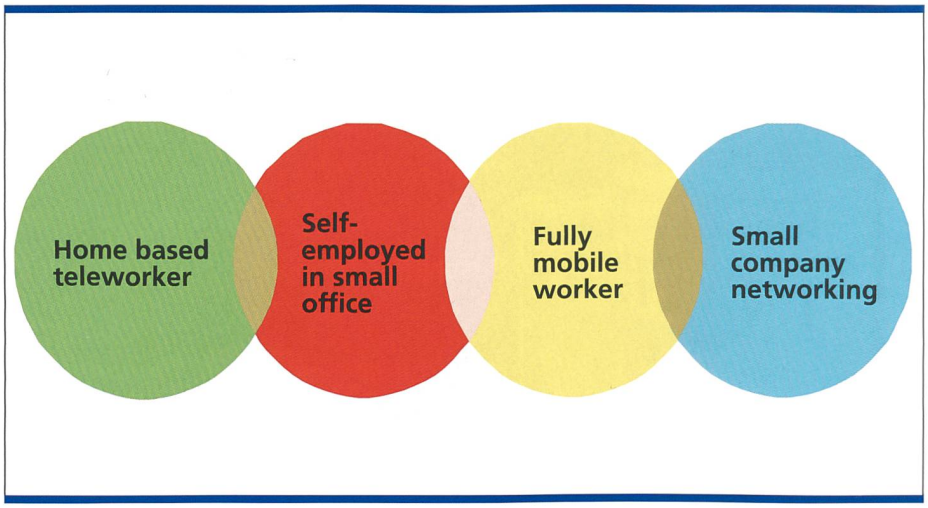

Fig. 1. Kinds of flexible working

E-Working

The definitions of flexible working are many and varied. The introduction of more flexible working arrangements should lead to benefits for all concerned, producing a multi-win situation for companies and organisations, their employees, shareholders and, of paramount importance, their customers. Flexible working covers any aspect of work that can be made flexible by using information and communication technologies (ICT). This goes beyond traditional teleworking, which provides flexibility in the time and location of work. ICT is only one driver towards flexible working. Others include increasing competition, structural changes in the economy, demography, society, globalisation, and cultural shifts, many of which push traditional small and medium-sized enterprises to become more flexible. While teleworking replicates the tools needed to do existing jobs, so that workers can do them at home, on the move or whenever it suits them, flexible working (or e-working) goes much further. The flexible working practices are considered "family friendly" which assist employees to better balance their family commitments with those of their working life. They will differ with the profile (e.g. age structure, sex balance) of the workforce, historical difficulties in recruiting or retaining employees within the locality, the history of management-workforce relationships, and also the degree of commitment from all concerned to empower employees. There is a range of family friendly work practices which employers can consider making available to employees in the areas of modes of employment, hours of work, leave arrangements, facilities and supportive work practices. These give employees greater flexibility in how they work in order to balance the demands of their work and family responsibilities. The "Information Society Technologies (IST)" Programme of the European research framework [1] is promoting new ways of working for the future development. Flexible working makes it possible for companies to become partners in one or more virtual, global and dynamic enterprises in helping them to overcome time and distance barriers. It can provide them with rapid access to information about resources, suppliers, and customers. It allows skills to be drawn into a project whenever they are needed and from wherever they are available.

Flexible working might start with teleworking. But it should rapidly move on to providing workers with better tools for doing their jobs that allow distributed teams to overcome the constraints of time, place and organisational boundaries, besides providing the flexibility in balancing the way of working and the family life. Flexible working can eventually transform the nature of the jobs themselves, by providing individual team members with immediate access to the information they need to solve complicated problems. In other words,

teleworking creates distributed organisations to carry out existing tasks, whereas flexible working creates smart, flexible, dynamic, networked organisations that can rapidly respond to what their customers want (fig. 1).

Flexible Working and small Businesses

Small and Medium scale Entreprises (SMEs) depend on the motivated staff, who can deliver the results on-time at competitive prices. The flexibility plays a major role in keeping the staff and customers satisfied. Technology facilitates the incorporation of flexibility to the work flow management, thus improving the competitiveness of the organisation. Figure 2 shows essential parameters that have to be managed very effectively for keeping the company healthy in terms of staff and customer loyalty and satisfaction.

Small and Medium Enterprises, especially those in rural or remote regions, could gain enormous benefits from flexible working. Some have already done so, overcoming problems of isolation and becoming "smart" organisations that can instantly combine the knowledge of all the individual members and respond dynamically to customers' requests or new business opportunities.

Business Advisors (they may be SMEs themselves), working for Regional Development Authorities (RDA) or Chambers of Commerce, have an important role to play in helping local businesses adopt flexible working techniques. However the technology is evolving rapidly and these Business Advisors can significantly benefit from a structured approach to selecting and implementing a package of flexible working tools and techniques that will progressively improve an SME's competitiveness and speed of response. This includes monitoring the effectiveness of the package and refining its contents in the light of experience.

This paper addresses the methodology to demonstrate the adoption of flexible working as a new way of work to achieve the maximum efficiency and be competitive. Some case studies will be presented as examples, to show the advantages of flexible working methods.

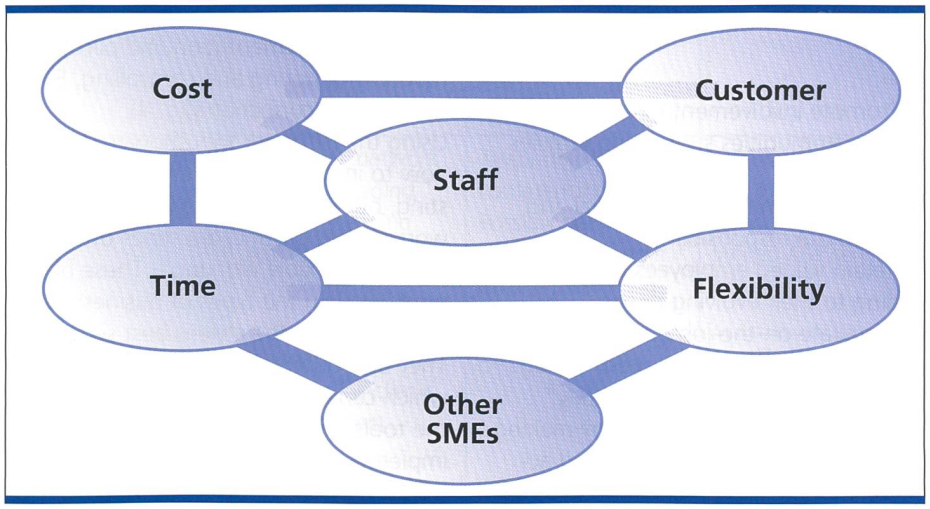

Fig. 2. Key parameters dependency in Flexible working

Issues to be considered

There is no "one-size-fits-all" prescription for flexible working. Flexibility can take many forms depending on:

- Type of business considered
- Where and when the work is done
- Management styles and processes
- Organisational structures
- Individual skills and responsibilities
- Contractual relationships between the players involved
- Workplace social culture.

The type of business and the management style varies from company to company in optimising the workflow. It is necessary to analyse the type of tasks involved, skills of staff and their availability locally or elsewhere, level of interaction required among the staff members and time factor dependencies on the deliveries from individuals in the team. Besides that the necessary tools to manage the workflow and process of completing the tasks, contractual and legal matters, training and career development of the staff as well as health and safety issues need to be considered. Based on such analysis, there is a need for a flexible working handbook, templates and checklists to successfully develop a flexible working culture in a business scenario.

This paper provides an overview to the basics of flexible working, presenting various approaches, the technologies avail-able to support them and the benefits that can be gained from adopting them. Numbers of issues are identified and discussed, which should be considered by any company thinking of introducing flexible working techniques. These include:

- Selecting suitable tasks and people
- Managing flexible workers
- Equipment and technology
- Health and safety
- Virtual teamwork
- Training and career development
- Contractual and legal matters

It introduces a structured approach to introducing flexible working within a small business. This guides the reader through the process of developing a flexible working implementation plan, analysing the costs and benefits of different approaches, and presents a model for phased introduction of the chosen tools and techniques.

The future liberalised market demands the flexibility in the way of life both in social, industrial and business environment. The main reasons for introducing flexibility and flexible working methods are:

- to improve response to market demands
- to increase ability to change and adapt
- to create a more efficient and productive enterprise
- to enable SMEs in remote regions to be successful

The flexibility development process involves

1. *Measuring flexibility:*
   situation analysis
   organisational flexibility
   questionnaire and flexibility wheel
   Parameters of workflow
2. *Development platform:*
   interpretation of profile
   snapshot of the company's understanding of flexibility

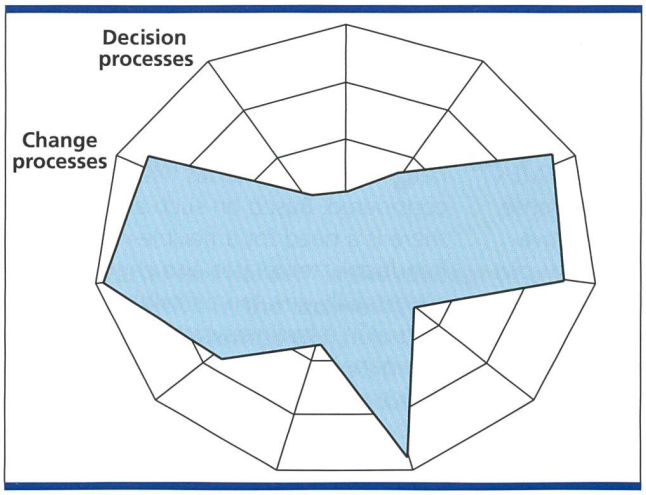

Fig. 3. The Flexwheel software tool helps a small company select the types of flexibility best suited to its business situation.

3. *Challenges:*
   identification
   analysis of the enterprise's challenges
   dialogue and clarification
4. *Future profile*
   determination of ideal profile for flexibility
   finance and consequences
   priorities
5. *Action plan(s)*
   establish methods and goals to secure desirable/necessary flexibility
6. *Implementation and continued development*
   organisational adjustment
   new measurement

Benefits of Flexible Working

The project FlexWork (being one of the projects of the IST Programme of the EU) has an objective of improving socio-economic benefits both to the SME companies and their working staff.

This objective is based on the assumption that the flexible working concept can:

- Motivate employees due to increased self-management
- Involve skilled resources of disabled, elderly and women
- Reduce the negative impact on an employee's work that results from the stress of trying to balance work and personal/family commitments.
- Improve employee productivity and customer satisfaction by improving employee satisfaction.
- Encourage employees and managers to work together and come up with creative answers to work challenges.
- Increase the skills and knowledge of employees by making it easier for them to pursue education and training.
- Promote involvement of employees in the communities supporting families and friends
- Improve commitment to social and corporate responsibility
- Retain valued employees by responding to their evolving needs
- Stimulate on-the-job effectiveness by allowing employees to work during their personal "best time of day"
- Facilitate customer contact by making it easier to span time zones and accommodate customers' diverse schedules.

Flexwheel Tool

A so-called "Flexwheel" software tool to analyse the flexible working models in an SME is based on the "Flexibility Wheel" concept developed by a Danish company to assess the introduction of flexibility in a company's workflow and management process, as shown in the figure 3.

The Flexibility Wheel consists of 11 parameters addressing issues related with

- structure of an organisation
- processes that take place in an organisation
- Knowledge Centre for Flexibility (the external relations and a parameter for management)

The Flexwheel software tool is a flexibility analysis tool, which helps a small company select the types of flexibility best suited to its business situation and organisational culture.

The FlexWork model for a phased introduction of flexible working identifies six phases: Preparation, Feasibility study, Concept, Implementation and pilot operation, Monitoring and controlling, Extension and correction (fig. 4).

Using the Flexwork tool showing SMEs how to implement a number of contrasting, but widely used styles of flexible working has produced a series of "blueprints for flexible working". These blueprints explain the types of business situations to which the style is best suited. They also outline the kinds of benefits which can be expected and introduce the tools and techniques available for implementing it. Each blueprint includes templates and checklists to support "Do It Yourself" implementation plans, and is accompanied by a set of "success stories" describing how individual SMEs have already benefited from that particular style of flexible work.

Technology Support for Flexible Working

A great deal of flexibility in working practices can be gained simply by mak-

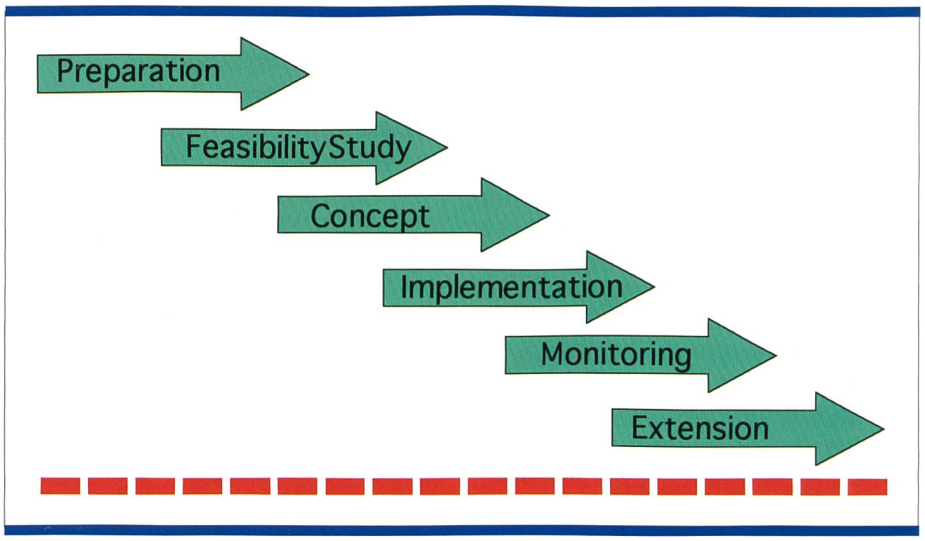

Fig. 4. Phased Introduction of Flexible Working

	Home-based	Centres and small offices	Mobile	Collaborative	Traditional
Access networks	*POTS, ISDN (CaTV, ADSL, FWA)*	*POTS, ISDN, Leased Line (CaTV, ADSL, FWA, Satellite* may also be used)	*GSM, GPRS, HSCSD, 3G* (plus *POTS and ISDN* for nomadic workers)	As centres	*ISDN, Leased Line (ADSL, FWA, Satellite* may also be used
Intraoffice networks	*Direct cable, Bluetooth*	*Direct cable, Ethernet, Bluetooth, Wireless LAN*	*Cable, Bluetooth, Infrared*	Not specific to this type to SME	*Direct cable, Ethernet, Bluetooth, Wireless LAN*
Terminals and hardware	*Phone, fax, PC, workstation, video/ still camera, printer, scanner, modem or ISDN TA*	As home-based, but higher-end versions. May add video conferencing suite. Likely to have servers. Likely to have routers for network connection.	*Mobile phone, laptop PC, PDA, printer, video/still camera*	As centres. More likely to have video conferencing. May have specialised equipment (e.g. computer controlled tools)	As collaborative. Less likely to have video conferencing
Services	*Telephony, network based messaging, ISP,* conferencing. *ASP* only likely with broadband link	*Telephony, ISP, ASP,* conferencing. Possibly network based *messaging* if on-site messaging not available	*Telephony messaging, WAP, ISP, conferencing.* Very limited ASP service possible	*Telephony, ISP, ASP, file sharing, conferencing*	As centres
Applications	*Standard office tools, e-mail clients, web browsers*	As home-based	*Standard office tools, e-mail clients, web browsers* – and cutdown versions for PADs	As centres, plus *GroupWare*	As centres
Security	*Anti-Virus, firewall, encryption, back-up*	As home-based.	As home-based	As home-based	As home-based

Table 1. Categories of workers vs. use of current technologies

ing use of the features available in some of the simple technologies. The simple well-known technologies are telephony, Fax and messaging services, with newly introduced and popular Internet services such as e-mail, web based information transactions. Many facilities are already built in to the most common computing tools used by SMEs (e.g. Microsoft Office) that enable flexible working, especially collaborative working between members of dispersed teams, using low cost internet services. A major factor (apart from certain psychological barriers) that is inhibiting the growth of flexible working is the lack of broadband access across the nations. This is particularly so in remote rural regions, and is likely to remain so for many years.
This analysis gives rise to suggestions for how technology can be used to accelerate the adoption of more flexible working by remote rural SMEs. Business Advisors who advise SMEs should make themselves aware of the flexible working features already available in the technology used by many SMEs. SMEs should be offered training addressing how to make use of those features to enhance their business. The regional development authorities and Chamber of Commerce units should do all they can to encourage the rollout of broadband access to remote rural regions.

Current Technologies supporting Flexible Working

Recent years have seen major advances in the technologies that can support flexible working, and the predicted advances over the next few years are even greater. SMEs in rural regions can sometimes feel left behind by this march of technology, because many of the first applications of new technology are based in the bigger cities. However, a great deal of flexibility can be introduced into working methods using technology which is widely available and new technologies are emerging which are specifically suited to the more rural parts of country.
The technology needed to make flexible working a reality can be grouped under six areas:
Applications: These are the tools or programmes that an SME can choose to help with the work. Typically, they might include word processors, e-mail packages, design packages, or web-browsing tools.
Access networks: No business works in total isolation and, therefore, the networks that give access to the communications networks of the world are key elements in flexible working.
Terminals and hardware: This is the equipment at SME's site and lets them use these tools. In the majority of cases, a PC will be used but some specialised hardware may also be used.
Intra-office networks: These are used to connect the different pieces of equipment

on an SME's site so that departments can work together more effectively.
Services: Although not strictly a technology, providers of services (such as internet access or voice services) are essential if the technology is to be used to enable flexible working.
Security: These are the tools that protect the user from malicious or accidental loss of service or data (e.g. anti-virus tools and back-up tools).
Each of these areas is discussed in some more detail in the next section of this paper.
No specific commercial products in any of the technology areas are recommended. The range of products is vast and analysing which product is best suited to an individual SME's needs is a task that has to be left to a competent supplier. However, some product names are quoted as examples of what is available.

Technology Matrix

Different types of workers have different technology needs. To simplify the task of identifying the relevant technologies, the matrix below makes it possible to see which technologies are likely to be relevant to which users. At this stage in the FlexWork project, a simple classification has been adopted of types of workers who are likely to evolve, as the needs of remote rural SMEs become better understood. Table 1.0 shows the categories of workers and the technology that can be used for such categories:
Home-based: either a very small (e.g. single person) SME, or a worker from a larger SME working full-time or part-time at home
Centres and small offices: includes tele-cottages/centres and SMEs with small offices (typically with 5–10 people)
Mobile: workers who spend most of their time away from a fixed base; they may move between a number of fixed locations (e.g. offices) or work mainly from a vehicle
Collaborative: SMEs that work closely with other SMEs to form a "virtual enterprise"
Traditional: SMEs where almost all of the staff are based at a small number of fixed locations carrying out more traditional tasks (e.g. car repair workshops) but where technology may help them to work more flexibly.
Technical briefing documents have been produced for each of the technologies identified in the table above from the FLEXWORK project. Details of the technology specific information applied to flexible working can be obtained from the FlexWork project web site by registering as members (free): http://www.flexwork.eu.com

Spreading the FlexWork Concept

The flexible working concept is being promoted to all of Europe's RDAs through EURADA, the European Association of Development Authorities. The FlexWork project (in the framework of the European Information Society Technology, IST, programme) is providing services to Business Advisors and to SMEs to spread the concept effectively through disseminating all related information through their web site (http://www.flexwork.eu.com) and through events under the patronage of local regional agencies promoting the flexible working for the economical development of rural and remote areas, which are isolated from the industrial sites.
FlexWork is also working closely with a number of Regional Development Authorities in Denmark, Germany, Ireland, Portugal, Switzerland and the UK to better understand the requirements of small businesses for information about flexible working and to refine its package of support materials. [6]

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Acknowledgements

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Zusammenfassung

Die intelligente Art zu arbeiten

Die Losung «Work smarter not harder» steht für eine neue Art zu arbeiten. Ihr haben sich jene Firmen verschrieben, die in der technologielastigen Wirtschaft mithalten wollen. Die «Smart Organisations» oder «Dynamic Networked Organisations» sind wissensbasierte Unternehmen, die aus ihren Erfahrungen lernen und sich auf diese Weise in die Lage versetzen, sich schnell die Organisationsform zu verpassen oder die Praxis zuzulegen, die sie im Wettbewerb obenausschwingen lässt. Sie stützen sich auf ein Team hochmotivierter Leute, die tun, was der Augenblick gebietet. Dies erfolgt mit einer Fertigkeit und zu Kosten, die keinen Vergleich zu scheuen brauchen. Solche Organisationen setzen auf tiefe Kosten und zuverlässige Tools, Workflow-Management und eine Planung, die alle Teammitglieder einschliesst. Wesentliches Merkmal einer Smart Organisation ist das so genannte Knowledge-Management. Dieser Beitrag erläutert die Wesenszüge der flexiblen Arbeit und zeigt mit ein paar Beispielen, was sich die KMU von ihr versprechen dürfen und wie sie sie handhaben müssen, damit sie zur Zufriedenheit aller Beteiligten funktioniert und die Wettbewerbsfähigkeit und Effizienz nachhaltig steigert. Anhand einiger Fallstudien wird veranschaulicht, was flexible Arbeitsmethoden zu leisten vermögen.