



Section 2.2

Assessments of Knowledge-based Economy

Work and Lifelong Learning Resource Base (WALLRB) Materials for Teaching, Research and Policy Making

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Assessments of Knowledge-based Economy

1. Alvesson, M. (2004). *Knowledge work and knowledge-intensive firms*. New York: Oxford University Press.

This book is based on the idea that society is beginning an era characterized by turbulence and rapid technological change. In the following competitive context, information technology has become omnipresent and increasingly important and new organizational forms have surfaced to respond to the new competitive challenges. The "knowledge" intensive firms are one type of these new forms. The increasing significance of this new type of organization relies on the fact that between ten and fifteen percent of the workforce in Europe and North America works in Knowledge Intensive Firms (KIFs). Many scholars and practitioners therefore feel confident in asserting that KIFs have started dictating the world economy.

KEY WORDS: Knowledge Work; KBE; Knowledge Workers; Knowledge Management.

2. Aneesh, A. (2001). Skill saturation: Rationalization and post-industrial work. *Theory and Society*, 30(3), 363-396.

The proliferation of new information technologies in the US has brought a shift in work skill requirements. Skill formation is located within the framework of rationalization to demonstrate the shift from industrial to postindustrial information work. The focus is on new information technologies that require the worker to interact primarily with electronic text and graphics. "De-skilling" is discussed, followed by an analysis of "skill saturation"; a distinction is made between saturated and unsaturated skills. Changes characteristic of saturated and unsaturated work are identified, including a loss of spaces for play and creativity and a paradoxical intensification of work, despite a decrease in the physical requirements of work. The way skills move from an unsaturated to a saturated state is described in the context of computer programming, and a history of programming languages and skill saturation is advanced. Possibilities of resisting saturation in postindustrial work world are explored.

KEY WORDS: Work Skills; Job Characteristics; Information Technology; Postindustrial Societies; Work Organization; Work Environment; Job Requirements; Employment Changes; Rationalization.

3. Baldwin, J. R., & Beckstead, D. (2003). *Knowledge workers in Canada's economy, 1971-2001*. Ottawa: Statistics Canada.

This article examines the emergence of the knowledge economy by examining the increasing importance of high-knowledge occupations over the period 1971-2001. Contrary to the impression that is sometimes given by reports that just emphasize the recent rapid development of the high-tech information and communications technology sector, a more extensive examination of the presence of knowledge workers shows that the emergence of the knowledge economy has been more widespread and continuous than might otherwise be thought. This paper reports that the importance of knowledge occupations has continuously increased over the last three decades. It also examines differences in the changes that have occurred for different knowledge professions—managers, professionals and technical occupations—and for different industries. It finds that the increase in the proportion of the labour force that is classified to knowledge occupations was widespread. It occurred for professionals, managers, and technical occupations. It occurred across most industries. While there are differences in the rates of growth in some areas, the most important conclusion to emerge from the study is that the growth of skills, as proxied by the importance of knowledge occupations, was widespread and not restricted to narrow areas of interest, such as popularly defined high-tech sectors.

KEY WORDS: Canada; Knowledge Economy; Occupation; Industry; Knowledge Workers; KBE.

4. Beckstead, D., & Vinodrai, T. (2003). *Dimensions of occupational changes in Canada's knowledge economy, 1971-1996*. Ottawa: Ministry of Industry.

This article examines the increasing importance of high-knowledge occupations over the period 1971 to 1996. It also examines changes that have occurred for different knowledge professions, including managers, professionals and technical occupations, by industry and by geographic area.

KEY WORDS: Knowledge Economy; Knowledge Workers; Knowledge Industry.

5. Beckstead, D., & Gellatly, G. (2004). *Are knowledge workers found only in high-technology industries?* Ottawa: Ministry of Industry, Canada.

This paper explores the industrial composition of Canada's Knowledge Economy. It uses a new occupational taxonomy to identify a small set of high-knowledge industries—industries that exhibit proportionately large concentrations of knowledge workers. It then compares these high-knowledge industries with two industrial aggregates that have recently been used to study growth trends in the New Economy: (1) information and communications technology (ICT) industries, and (2) science-based industries. Two basic questions guide our analysis. First, are there industries—beyond those located in science and technology-based environments—that emerge as high-knowledge leaders when statistical estimates of knowledge intensity are based solely on occupational structure? Second, how do the growth and structural characteristics of these high-knowledge industries compare with those that characterize ICT-based environments, sectors that are home to the technology-based firms that develop, deliver and support many of the products and services associated with the New Economy?

KEY WORDS: Knowledge Economy; Knowledge Workers; Canada; Class Analysis; Knowledge Industry.

6. Black, S. E., & Lynch, L. M. (2003). The new economy and the organization of work. In D. C. Jones (Ed.), *New economy handbook* (pp. 545-563). San Diego: Academic Press.

Although considerable research has focused on the role of investments in information and communication technologies in the "new economy," this chapter argues that an additional component of the new economy includes changes in workplace practices. Over the past decade, more firms have adopted "knowledge-based" work processes in which nonmanagerial workers are involved in problem solving and identifying opportunities for innovation and growth. Workplace innovations such as teamwork, incentive-based compensation, employee participation in decision-making, and training have raised the productive capacity of firms, impacted the wages of workers, and affected the demand for skilled labor. This chapter summarizes the empirical evidence on the impact of workplace innovation on a new economy and the implications for public policy.

KEY WORDS: Economic Analysis; Workplace Alternatives; New Economy.

7. Blom, R., Melin, H., & Pyoria, P. (2002). Social contradictions in informational capitalism: The case of Finnish wage earners and their labor market situation. *The Information Society*, 18, 333-343.

Along with the diffusion of information and communication technologies (ICTs), work processes are becoming ever more knowledge intensive. In keeping with this trend, the number of informational (or knowledge) workers in Finland has more than tripled from 12% in 1988 to 39% in 2000. What makes the Finnish case unique and interesting is the exceptional speed with which the information sector of the economy has grown. A few years after facing the most severe economic recession in its history in the early 1990s, Finland is now considered to have an advanced information economy. However, our empirical analysis—based on survey data from 1988, 1994, and 2000—yields a somewhat more critical picture of the Finnish information society than what usually comes across in the mainstream media. The opportunities for social equality offered by the growth of informational work are far more limited than was the case with the transition from agricultural to industrial production.

KEY WORDS: Knowledge; Knowledge Work; Information; Stratification; Class Analysis; KBE; Education; Work.

8. Brint, S. (2001). Professionals and the 'knowledge economy': Rethinking the theory of postindustrial society. *Current Sociology*, 49(4), 101-132.

The author provides evidence that the Scientific-Professional Knowledge (SPK) economy is a sizeable, but far from predominant, part of the larger economy. He criticizes the tendency of most of the early theorists to assume either a linear or 'S-curve' growth in the size and influence of the knowledge economy. He shows that a meaningful conception of the knowledge economy must have a more realistic sense of subsector dynamics to replace the simplistic notions of linearly expanding influence that marred much of the earlier visionary work on the SPK economy. He argues that structural influences on the growth of particular industries in the knowledge economy (including the potential for productivity gains in the different SPK industries, demographic changes related to demand for services, and legal environment-influencing relationships between universities, government and corporations) are necessary features of an adequate social science understanding of this growing sector of the economy. Finally, he differentiates five major subsectors of the SPK economy and show that the conditions and opportunities at work faced by professionals vary greatly by the subsector in which they are employed. In the conclusion of the article, the author uses this reformulation of the knowledge economy idea to discuss why the social changes associated with the coming of a professionally dominated, knowledge-based postindustrial society have not, by and large, come to pass.

KEY WORDS: Knowledge; KBE; Knowledge-Based Economy; Professional; Post-Industrialism; Management; Management Theory.

9. Brown, P. (2000). The globalisation of positional competition? *Sociology*, 34(4), 633-653.

The paper examines the impact of economic globalisation on competition for a livelihood. He suggests that centre-left Modernisers, which include New Labour in Britain and the Democrats in the USA, assume that globalisation has transformed the nature of positional class conflict. These groups argue that the absolute standards of educational achievement, rather than the relative standing of credential holders within local or national labour markets, are of primary importance. Drawing on neo-Weberian theories of social closure, the author argues that the Modernisers' description of the global labour market and its impact on positional class conflict is flawed. He suggests that existing theories of social closure be developed in terms of what is called Positional Conflict Theory.

KEY WORDS: Academic Achievement; Competition; Social Class; Globalization; Sociological Perspectives; Work and Learning.

10. Bryson, J. (2000, October 24-26). *Building a knowledge-based economy and society*. Paper presented at the Conference Capitalising on Knowledge: The Information Profession in the 21st Century, Canberra, Australia. Retrieved December 28, 2006, from <http://conferences.alia.org.au/alia2000/proceedings/jo.bryson.html>.

This paper provides an overview of the forces shaping the future of the knowledge economy and society, including: the speed and type of change that is occurring; the technologies that are propelling it; the technology and information choices that competitors are making; which organizations are in the lead; who has the most to gain and to lose; the investment strategies of competitors vis-a-vis the trends; and the variety of ways these trends may influence customers' demands and needs. The characteristics of a global information economy and society are identified, focusing on the four building blocks of infrastructure provision, lifelong learning, economic growth, and service delivery. National strategies for Singapore, the European Union, and Australia are considered, as is the role of libraries and information services in the global information economy and society.

KEY WORDS: Economic Change; Foreign Countries; Futures of Society; Global Approach; Information Services; Information Technology; Library Role; Lifelong Learning; National Programs; Social Change.

11. Carlsen, A., Klev, R., & von Krogh, G. (2004). Living knowledge: Foundations and frameworks. In A. Carlsen, R. Klev & G. von Krogh (Eds.), *Living knowledge: The dynamics of professional service work* (pp. 1-19). New York: Palgrave Macmillan.

The authors take a fairly conventional approach to knowledge work, or what they specify as professional service work, arguing there are a growing number of jobs that involve non-routine and problem-solving activity. The authors reject the reification of knowledge, rather studying knowledge only through those activity systems where knowledge is applied and acquired.

KEY WORDS: Knowledge Work; Knowledge Workers; KBE; Professional; Knowledge; Knowledge Management.

12. Castells, M. (2004). *The network society: A cross-cultural perspective*. Northampton, MA: Edward Elgar.

Castells writes that technology cannot be considered independently of its social context. He presents 19 contributed articles inquiring into some key themes in various cultural and institutional contexts. These themes offer theoretical discussion of the network society. Analysis of processes of technological transformation in Silicon Valley, Finland, Russia, China, and the UK are provided. Subsequent chapters discuss the economy, sociability and social structure, the public interest, social movements and politics, and identity, culture, globalization, the hacker ethic, and a historian's view.

KEY WORDS: Information Society; Cross-Cultural Studies.

13. Cortada, J. (Ed.). (1998). *Rise of the knowledge worker*. Boston: Butterworth-Heinemann.

This book traces the history and evolution of the "knowledge worker," a term coined to describe employees in the Information Age who do mental as opposed to manual labor, and provides insights and conjecture as to the future role of such workers.

KEY WORDS: Knowledge Workers; Knowledge Management; Intellectual Capital.

14. Cully, M. (2003). *Pathways to knowledge work*. Retrieved March 22, 2006, from <http://www.ncver.edu.au/research/proj/nr0022.pdf>

A study examined how the occupational structure of the Australian labor market evolved and how individuals fared in the process. It identified issues in defining skill and knowledge and followed Elias and McKnight (2001) in stating that sufficient evidence showed a very high correlation between job-required cognitive ability and ordinal skill ranking. Prong 1 of an empirical approach examined census data on occupational composition of employment from 1986-2000 and showed that employment grew most rapidly in professional jobs and intermediate clerical, service, and sales jobs, and a very large number of trades were in decline. Prong 2 examined longitudinal data from the 1997 Negotiating the Life Course Survey with work and education histories for over 2,000 people and found that about six in seven changed occupation between their first main job on entering the labor market and their present job, and just over half changed broad skill ranking. The most important determinant of whether a person began working life in a knowledge job and stayed was education. There was little association between people's background characteristics, education, and work experience and whether they moved into knowledge work. Implications for vocational education and training (VET) were that the surest path to knowledge jobs is to obtain post-school qualifications; VET might deliver degree-level courses at the associate professional level where diplomas are often required; and over-education through VET is dangerous if educational attainment outstrips growth of jobs at the top of skill distribution.

KEY WORDS: Knowledge Workers; Australia.

15. David, P. A., & Foray, D. (2002). An introduction to the economy of the knowledge society. *International Social Science Journal*, 54(171), 9-23.

This paper reviews the central themes relating to the development of new knowledge-based economies. After placing their emergence into an historical perspective & suggesting a theoretical framework to distinguish knowledge from information, the authors try to grasp what constitutes the specific nature of such economies. They proceed to deal with some of the major issues concerning the new skills & abilities necessary for integration into the knowledge-based economy; the new geography that is developing (where physical distance would cease being such a influential constraint); the conditions controlling access to the knowledge-based economy, not least for developing countries; how the development of knowledge across different sectors of activity has been uneven; problems with intellectual property rights & the privatization of knowledge; and the topics of confidence, memory, & the fragmentation of knowledge.

KEY WORDS: Economic Change; Economic Systems; Knowledge; Technological Progress; Social Change; Knowledge Utilization; Telecommunications; Work and Learning.

16. Dunning, J. (Ed.). (2000). *Regions, globalization, and the knowledge based economy*. New York: Oxford University Press.

This book presents different disciplinary approaches to the knowledge economy and includes detailed case analysis of its impact in various parts of the world. The book moves between the supra national macro region and the micro cluster, as well as looking at associated infrastructural and policy responses.

KEY WORDS: Knowledge Management; Regional Economics; International Business; Work and Learning.

17. Florida, R. (2002). *The rise of the creative class: And how it's transforming work, leisure, community and everyday life*. New York: Basic Books.

The author looks at the growing influence of today's newest "Creative Class" which derives its identity and values from its role as purveyors of creativity and comprises nearly 40 million Americans and 25 percent of all employed people. The author also offers innovative and practical lessons for businesses and employees.

KEY WORDS: Creative Ability; Work Ethic; Knowledge Workers; Leisure; Social Classes; Technology and Civilization; Human Capital.

18. Frenkel, S., Korczynski, M., Donoghue, L., & Shire, K. (1995). Re-constituting work: Trends towards knowledge work and info-normative control. *Work, Employment & Society*, 9(4), 773-796.

This article examines the impact of three macrotrends in technological change & employment structure on the nature of work in advanced societies: (1) transformation of infrastructure to one based on information technology; (2) growth of occupations requiring reconceptualization & analysis of information; & (3) continued expansion of the service sector relative to the manufacturing sector. These trends are making the conventional classifications of work - manual vs. nonmanual, white- vs. blue-collar, & part- vs. full-time - meaningless & are producing an emphasis in the workplace on knowledge work & people-centeredness. A three-dimensional framework for interpreting the work of several kinds of information- & people-centered workers is provided, & the impact of this trend on management control of the workplace discussed.

KEY WORDS: Technological Change; Employment Changes; Trends; Work; Information Technology; Occupational Structure; Service Industries.

19. Guthrie, J., & Petty, R. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of Intellectual Capital*, 1(2), 155-176.

The rise of the "new economy", one principally driven by information and knowledge, is attributed to the increased prominence of intellectual capital (IC) as a business and research topic. Intellectual capital is implicated in recent economic, managerial, technological, and sociological developments in a manner previously unknown and largely unforeseen. Whether these developments are viewed through the filter of the information society, the knowledge-based economy, the network society, or innovation, there is much to support the assertion that IC is instrumental in the determination of enterprise value and national economic performance. First, the authors seek to review some of the most significant extant literature on intellectual capital and its developed path. The emphasis is on important theoretical and empirical contributions relating to the measurement and reporting of intellectual capital. The second part of this paper identifies possible future research issues into the nature, impact and value of intellectual

management and reporting.

KEY WORDS: KBE; Knowledge Management; Intellectual Labour; Intellectual Capital; Intangible Assets; Knowledge Work; Knowledge Workers.

20. Hansen, L. (2001). *The division of labour in post-industrial societies*. Retrieved June 19, 2006, from <https://guoa.uu.se/dspace/bitstream/2077/131/1/Hansen2001.pdf>

This dissertation is a study of how work is distributed in so-called post-industrial societies. The main question it addresses is how the division of labour in complex societies is developing. That is, what occupations are increasing or decreasing their shares within the occupational structure, and how can these changes be understood? For many years it has been argued that advanced Western societies are leaving the industrial era and entering a so-called post-industrial phase. The primary feature of this alleged post-industrial development is a shift from the primacy of goods production to a dominance of service production.

The studies that are presented in this thesis represent attempts to capture the essence of the division of labour in so-called post-industrial societies. Five economically advanced Western countries (Canada, Denmark, Germany, Sweden, and the United States) are studied regarding such aspects as industrial and occupational employment changes, occupational sex segregation, and changes in educational attainment. Also, the conceptual framework for occupational classifications is analysed and discussed. The countries are studied with the help of official statistics, and, in particular, occupational employment data are utilised in a number of ways. Occupational data are presented on several levels of aggregation and organised according to different classifications in order to arrive at a comprehensive understanding of these countries' division of labour.

KEY WORDS: Post-Industrial Society; Division of Labour; Occupational Classification; Occupational Structure; Welfare State; Sex Segregation; Education.

21. Henwood, D. (2003). *After the new economy: The binge...and the hangover that won't go away*. New York: The New Press.

The author dissects the New Economy, arguing that the delirious optimism was actually a manic set of variations on ancient themes, all promoted from the highest of places. Claims of New Eras have plenty of historical precedents; in this latest act, our modern mythmakers maintained that technology would overturn hierarchies, democratizing information and finance and leading inexorably to a virtual social revolution. But, as the author vividly demonstrates, the gap between rich and poor has never been so wide, wealth never so concentrated.

KEY WORDS: New Economy; Classical Economics; Weightless Society; Knowledge Economy; Knowledge Workers; Neoliberalism.

22. Kelloway, K., & Barling, J. (2000). Knowledge work as organizational behaviour. *International Journal of Management Reviews*, 2(3), 287-304.

The authors review and critique the definitions of knowledge work and put forth the idea that it can best be understood as a discretionary behaviour in organizations. The discretionary acts in organizations are understood to compromise the creation of knowledge, the application of knowledge, the transmission of knowledge, and the acquisition of knowledge.

KEY WORDS: Knowledge Workers; Human Capital.

23. Kevatsalo, K. (2001). Confidence and commitment in postindustrial work organizations. *Sociologia*, 38(4), 260-273.

Many analysts agree that the mid-1970s was a turning point in the organization of production and markets during the last of the industrial age. The period of change that followed has been described as a transition from "Fordism" to "post-Fordism". This period has even been called the information age because of the rapid adoption and diffusion of information technology. This article elaborates on employee commitment to management and trade unions throughout this period of transition.

KEY WORDS: Management; Unions; Workers; Labor Process; Employment Changes; Postindustrial Societies; Flexible Specialization.

24. Kim, S. (2000). The roles of knowledge professionals for knowledge management. *Inspel*, 34(1), 1-8.

This paper starts by exploring the definition of knowledge and knowledge management; examples of acquisition, creation, packaging, application, and reuse of knowledge are provided. It then considers the partnership for knowledge management and especially how librarians as knowledge professionals, users, and technology experts can contribute to effective knowledge management. It is concluded that knowledge professionals will have to move from the background to the center of the organizational stage to jointly hold the reins of knowledge management.

KEY WORDS: Information Professionals; Knowledge Management; Information Management; Information Technology; Librarians; Library Role; Library Services; Organizational Development; Users (Information).

25. Kleinman, D. L., & Vallas, S. P. (2001). Science, capitalism, and the rise of the "knowledge worker": The changing structure of knowledge production in the United States. *Theory and Society*, 30(4), 451-492.

This paper explores the paradox of increasing scientist/engineer autonomy in the private sector versus decreased academic freedom for university researchers in the context of capitalism's growing dependence on scientific/technical expertise. The concept of "asymmetrical convergence" is applied to describe the simultaneous penetration of industrial codes & practice into the academy & emergence of academic norms for knowledge workers in the high-tech sector. In light of problems in existing scholarship on scientific & technical workers, a divergent conceptual model for viewing knowledge work under contemporary capitalism is outlined, demonstrating new knowledge production structures, particularly as the academy aligns more frequently with industry.

KEY WORDS: Science and Technology; Scientists; Engineers; College Faculty; Knowledge; Production; Academic Freedom; Autonomy; Public Sector Private Sector Relations.

26. Kurzman, C., & Owens, L. (2002). The sociology of intellectuals. *Annual Review of Sociology*, 28, 63-90.

The sociology of intellectuals has adopted three fundamentally unique approaches to its subject. The Dreyfusards, Julien Benda, "new class" theorists, and Pierre Bourdieu

treated intellectuals as potentially a class-in-themselves, that is to say, as having interests that distinguish them from other groups in society. Antonio Gramsci, Michel Foucault, and theorists of "authenticity" treated intellectuals as primarily class-bound, representatives of their group of origin. Karl Mannheim, Edward Shils, and Randall Collins treated intellectuals as relatively class-less with the ability to transcend their group of origin to pursue their own ideals. These approaches divided the field at its founding in the 1920s, during its mid-century peak, and in its late-century revival.

KEY WORDS: Intellectuals; Knowledge Workers; New Class; Class Analysis; Professionals.

27. Leadbeater, C. (2000). *The weightless society: Living in the new economy bubble*. New York: Texere.

Today more and more of us make our living from our ideas. The Weightless Society demonstrates why entrepreneurship will become a mass activity, companies will need to be structured as if they were brains, ownership must be broadly spread, networks will become the main way of organizing our knowledge economy, and truth and collaboration will be the new ethics of the new economy. Perhaps most compellingly, the author shows how the same principles are being applied in the public sector. The author argues for a radical overhaul of corporate and government institutions inherited from the industrial era which are ill suited to the knowledge economy, including new approaches to measuring economic value, taxation and social entrepreneurship.

KEY WORDS: New Economy; Knowledge-Based Economy; Weightless Society; Knowledge Work; Knowledge Workers.

28. Machin, S. (2003). Skill-biased technical change in the new economy. In D. C. Jones (Ed.), *New economy handbook* (pp. 565-581). San Diego: Elsevier.

This chapter examines changes in the skill structures of labor demand. It places attention on changes in the relative wages and employment of more skilled–educated workers as compared to their less skilled–educated counterparts. The chapter discusses the main explanations for why relative demand has shifted in favour of the more skilled, arguing that skill-biased technical change has been an important factor behind the observed changes in the organization of work in the new economy. It also examines some of the technology–trade debate, arguing that trade-based explanations are difficult to maintain. It concludes by discussing the possible policy implications that run alongside these changes in labor market structure.

KEY WORDS: Skill; KBE; Knowledge-Based Economy; New Economy.

29. Malhotra, Y. (2002). Is knowledge management really an oxymoron? Unraveling the role of organizational controls in knowledge management. In D. White (Ed.), *Knowledge mapping and management* (pp. 1-13). Hershey, PA: Idea Group.

Many current implementations of organizational knowledge management, although based on the most advanced information technologies, are challenged by the pervading organizational controls. Often, such failures of knowledge management systems implementations come about from incorrect understanding and misapplication of the notion of "controls." Therefore, it is critical to develop a better understanding of information systems related organizational controls so that they can facilitate the success

of knowledge management systems implementations. This chapter fills the critical void of incomplete and commonly incorrect interpretations of organizational controls by developing a better theoretical and conceptual understanding of organizational controls and their pragmatic implications. The chapter proposes an organic model of organizational controls for design of knowledge management systems that can effectively enable creation of new knowledge, renewal of existing knowledge and knowledge sharing.

KEY WORDS: Knowledge Management; Knowledge; Knowledge Work; Discretion; Decision-Making; Management Theory.

30. Meyerson, H. (2006, April 8). *Not your father's Detroit*. Retrieved July, 2006, from <http://www.americanprospect.com/web/page.ww?section=root&name=ViewPrint&articleId=11300>

The author debunks a number of myths concerning the 'new economy': namely, that wages are improving with productivity and that the future for the US will be a place where the highly educated are richly rewarded. Instead, he argues that offshoring practices will move any and all jobs that can be moved to countries where wages are lower and governments pursue more aggressive, strategic industrial policy. Using statistics from a range of mainstream sources, the author paints a bleak future for the worker in the America and other advanced capitalist economies. He recommends that the US change its industrial policy to provide incentives for corporations to invest and stay in the country, that the US pursue and upgrading policy (unionization) for all service work, especially non-offshorable jobs; and, finally, that corporate governance be changed so that employees and public members have a significant say instead of CEO-dominated boards of governors simply rewarding each other and the shareholder at the expense of employees.

KEY WORDS: Outsourcing; Offshoring; Economics; Restructuring; Industrialism; Globalization.

31. Mokyr, J. (2002). *The gifts of Athena: Historical origins of the knowledge economy*. Princeton, NJ: Princeton University Press.

The increase of technological and scientific knowledge in the past two centuries has been the overriding dynamic element in the economic and social history of the world. Its result is now called the knowledge economy. But what are the historical beginnings of this revolution and what have been its mechanisms? The author constructs an original framework to analyze the concept of "useful" knowledge. He argues that the growth explosion in the modern West in the past two centuries was driven not just by the appearance of new technological ideas but also by the increased access to these ideas in society at large - as made possible by social networks comprising universities, publishers, professional sciences, and kindred institutions. Through a wealth of historical evidence set in clear and lively prose, the author shows that changes in the intellectual and social environment and the institutional background in which knowledge was generated and disseminated brought about the Industrial Revolution, followed by sustained economic growth and continuing technological change.

KEY WORDS: KBE; Knowledge-Based Economy; Knowledge; Post-Industrial.

32. OECD. (2001). *Competencies for the knowledge economy*. Retrieved July, 2006, from <http://www.oecd.org/dataoecd/42/25/1842070.pdf>

Pressures to increase the role of information and knowledge in national economies have provoked a wide-ranging debate about what kinds of competencies young people and adults now require. The workforce is “upskilling”, both in terms of the average educational level of workers and the kinds of job that they are performing. White-collar, high-skilled jobs are driving growth in employment. This is not simply a question of the growth in knowledge “sectors”. Work is becoming increasingly skilled across industries and within individual occupations. A group of “knowledge workers” can be viewed as those performing knowledge-rich jobs. Such workers are usually but not universally well educated. Some knowledge workers possess high levels of literacy and lower levels of education, implying that basic skills obtained beyond education are recognised in the knowledge economy. Communication skills, problem-solving skills, the ability to work in teams and ICT skills, among others, are becoming important and harmonizing to basic core or foundation skills. Even more than other workers, knowledge workers depend on workplace competencies. However, further research is required to inform education policy makers about how to develop the right skills for a knowledge economy, rather than assuming that high levels of education alone, as conventionally defined, will be enough.

KEY WORDS: KBE; Knowledge-Based Economy; Competencies; Education; Learning; Skills.

33. Powell, W. W., & Snellman, K. (2004). The knowledge economy. *Annual Review of Sociology*, 30, 199-220.

The authors define the knowledge economy as production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence. The key aspect of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources. The authors provide evidence drawn from patent data to document an upsurge in knowledge production and show that this expansion is driven by the emergence of new industries. The authors then review the contentious literature that assesses whether recent technological advances have raised productivity. Also, the authors examine the debate over whether new forms of work that embody technological change have generated more worker autonomy or greater managerial control. Finally, the paper assesses the distributional consequences of a knowledge-based economy with respect to growing inequality in wages and high-quality jobs.

KEY WORDS: Knowledge; Productivity; Workplace Reform; Distributional Effects of Technological Change.

34. Sam, T. X. (2002). New characteristics of knowledge-based economies. *Nature, Society, and Thought*, 15(4), 469-481.

The scientific & technological revolution led to globalization and this event in turn has become a driving force for the alteration of science into a direct labor force. Knowledge is the decisive element in economic development, & knowledge-based, nonmaterial commodities will soon govern the market. Changing a knowledge-based economy depends on a strong development strategy by a country or business. There is a clear gap between the developed & less-developed capitalist countries. The uneven development of the capitalist transnational corporations situated in the developed capitalist countries are using their domination of the knowledge-based economy to deepen the exploitation of the less-developed nations. The result is that the class struggle becomes more sophisticated while remaining just as fierce.

KEY WORDS: Scientific Knowledge; Economic Models; Development Strategies; North and South; Capitalist Societies; Class Struggle; Economic Underdevelopment; Information Society; Globalization; Work and Learning.

35. Statistics Canada. (2001). *National occupational classification 2001*. Ottawa: Ministry of Supply and Services, Statistics Canada.

Developed in co-operation with Statistics Canada, this report is the standard framework for collecting and analyzing labour market information. The revised NOC 2001 provides accurate and up-to-date descriptions of over 500 occupational groups that cover approximately 30,000 job titles. The Canadian labour market has changed significantly since the 1992 release of the NOC. Technological advancements have created a number of emerging occupations and have transformed many others. The revised NOC 2001 now includes eight new occupational groups for work in the information technology industry. The new skills required in Canada's knowledge-based economy are reflected throughout the NOC 2001. This report is seen as being an indispensable tool for those who use labour market information, plan human resources, conduct labour market research and analysis, assist with career planning and vocational rehabilitation, and provide career information services.

KEY WORDS: Occupations Classification; Occupations Dictionaries; Occupations Terminology; Occupations Canada.

36. Stewart, T. (1997). *Intellectual capital: The new wealth of organizations*. New York: Doubleday.

The author demonstrates that the emergence of the Information Age has changed the nature of wealth and wealth creation, and offers new ways of looking at what companies do and how to lead them. In a knowledge-based economy, intellectual capital - the untapped, unmapped knowledge of organizations - has become a company's greatest competitive weapon. Intellectual capital is found in the talent of the people who work there; the loyalty of the customers it serves and learns from; the value of its brands, copyrights, patents and other intellectual property; the collective knowledge embodied in its cultures, systems, management techniques, and history. However, these vital assets are nowhere found on a balance sheet, only rarely managed, and almost never managed skillfully.

KEY WORDS: Creative Ability in Business; Human Capital; Success in Business.

37. Thompson, P., Warhurst, C., & Callaghan, G. (2000). Human capital or capitalising on humanity? Knowledge, skills and competencies in interactive service work. In C. Prichard, R. Hull, M. Chumer & H. Willmott (Eds.), *Managing knowledge: Critical investigations of work and learning* (pp. 122-140). New York: St. Martin's Press.

This article critically examines the claim that there has been a striking growth in 'knowledge work' in advanced economies. Using the Australian Bureau of Statistics Labour Force Survey, the authors examine occupational change from 1986 to 2000 to evaluate the support for this claim. Researchers usually rely on aggregate level data to justify the presence of a burgeoning knowledge-based workforce, but the authors contend that we must 'get below the surface' of the major occupational groups by disaggregating the data. This enables the authors to demonstrate that a substantial component of the apparent growth in knowledge work is accounted for by an increase in low-level information handling occupations rather than by a growth in knowledge work as it is commonly conceived. The article then develops an interpretive framework that makes sense of the data in a manner that avoids both over-estimating the prevalence of the 'knowledge worker' and underestimating the knowledge-related activities in jobs usually

considered to be low-skilled and bereft of important competencies.

KEY WORDS: Knowledge; Knowledge Work; Knowledge Workers; Skill; Human Capital Theory; Human Capital; KBE.

38. Thurow, L. C. (2000). Globalization: The product of a knowledge-based economy. *The Annals of the American Academy of Political and Social Science*, 570, 19-31.

The shift to an era of manmade brainpower industries is devising the technologies that are creating a global economy. Leaving behind the role of regulator or the function of controlling their national economies, governments are becoming platform builders that invest in infrastructure, education, and research and development to allow their citizens to have the opportunity to earn world-class standards of living. Countries themselves are being put into play, and inequality is rising. The rest of the world sees an invasion of the US system, but in reality, it is a brand new global system. Intellectual property rights have become a central and contentious unresolved issue.

KEY WORDS: Globalization; Knowledge; Property; Property Rights; State Intervention; Economic Development; World Economy; Research and Development; Infrastructure.

39. Thursfield, D. (2000). *Post-Fordism and skill: Theories and perceptions*. Aldershot: Ashgate.

Taking three companies, one from the glass, electronics, and chemical industries, as case studies, the author addresses the trend of general neglect of manager and worker perceptions of skill, and uses that evidence to construct a model to explain subjective perceptions of skill and the causal processes that shape them. Thursfield connects definitions of skill by sociologists to those grounded in the perceptions of those involved.

KEY WORDS: Occupations; Great Britain; Sociological Aspects; Skilled Labor; Ability; Evaluation.

40. Wigfield, A. (2001). *Post-Fordism, gender and work*. Aldershot: Ashgate.

In recent years there has been extensive debate concerning the way in which advanced industrialized nations have encountered economic restructuring, experiencing a shift away from the dominance of Fordism and the emergence of more flexible modes of production. The principal theoretical perspectives in this field, the Institutional theory of flexible specialization and the regulationist theory of post-Fordism, fail to adequately incorporate a gender informed analysis into their respective models of economic restructuring. This book redresses the gap in existing post-Fordist literature and is the first of its kind to comprehensively explore gender relations in the post-Fordist economy. The book incorporates a gender dimension into the economic restructuring debate on both a theoretical and a practical level. It also explores the implications of economic restructuring in the workplace for gender relations. Several questions emerge from this discussion relating to issues around numerical flexibility, functional flexibility, and technological change. This book provides an important and original contribution to both post-Fordist and feminist literature, whilst at the same time providing a practical insight into post-Fordist methods of work organization based on the concept of team working.

KEY WORDS: Teams in the Workplace; England; Nottinghamshire; Case Studies; Women; Employment; Feminist Economics; Labor Economics.



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