Employability in the Third Era of Globalisation

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Abstract

Globalisation has penetrated all areas of contemporary society, and higher education (HE) is no exception. Universities worldwide are under pressure to seek ways to compete globally and identify what elements they should adjust or create and how. This paper discusses employability; i.e., the skills and capabilities required by human resources for the future sustainable global society. It first compares the three eras of globalisation, the expansion of trade/territorial space, that of cyber/(c)-financial space, and emerging third era, ‘sustainable globalisation.’ It then presents the human resources / employability skills necessary to realise sustainable globalisation, emphasising the necessity of the participation of young individuals in creating new work models. The paper will close by discussing the future issues for HE, industry, government and community in ensuring the sustainable society and nature.

Keywords: Employability, higher education, globalisation, sustainability, global talent

1. Introduction

A hundred and forty five years ago, J. S. Mill said ‘it (University) is not a place of professional education,’ in his inaugural address at the University of St. Andrews. [1] This statement still applies today. However, during the progress of globalisation, social systems and activities have become more and more varied, and the future has become uncertain and unpredictable. For this reason, it has been recognised that both students and educational institutions should have a rich imagination and heightened creativity when considering future working environments and the enhanced roles of students, especially in developing the next generation of leaders and core human resources. Education for this is not simply traditional professional education, and should be achieved by breathing life into the firm basics; human and social skills in an academic environment with rich practical experiences in a real environment.

Globalisation first occurred in the 15-16th century as the expansion of trade and territorial space. Its second era began to emerge in the 1970’s as the expansion of business space. Cyber space built its base first through the PC (personal computer) communication network and then over the Internet. The so-called e-financial space further inflated it beyond the limits of actual physical space. This expanding model pushed the limits of the finite Earth, resulting in overpopulation, wasteful artificial products and energy/resource crises. As globalisation cannot now be stopped, we have to ensure that its ‘third era’ encourages the development of a sustainable planet and society.

This paper discusses the human resources and employability needed for the third era of globalisation, structured as follows. Section 2 compares the past two eras and the current third era of globalisation. Then section 3 explains issues which themselves characterise the third era and examines what is needed for realising a ‘sustainable globalisation’ different from the first two eras, modifying existing activities such as the ‘Platinum-network’. Section 4 first discusses employability, considering not only organisational aspects but human developmental ones for society. Based on the analysis in the previous sections, it then presents the human resources / employability skills necessary to realise sustainable globalisation, emphasising the necessity of the participation of young individuals in creating new work models as well. Section 5 shows some examples of activities linked with sustainable globalisation. Section 6 closes the paper by presenting the future issues for higher education (HE), industry, government and community in ensuring employability in the sustainable era of globalisation.

2. Comparison of three eras of globalisation

2.1 Expansive globalisation [2]

The first globalisation occurred in the 15-16th century as the (horizontal [2] or frontier) expansion of trade and territorial space. It lasted until the 20th century. Powers of old times such as the Byzantine Empire expanded their activities first via land having spent long time, and European maritime nations such as Spain, Portuguese, the United Kingdom and the Netherlands followed by the U.S.A. challenged the conventional powers one after the other, by their expansion via sea with high speed vessels and strengthened navy power. Their aim was the pursuit and accumulation of wealth, for which the expansion of markets was a major means. Industrial revolution resulted in the divorce of manufacturing from the household, leaving only a consuming function for the latter and giving almighty power to money and commercialising ‘services’ by inventing the service industry, leisure industry, and so on.
As the limits of physical space expansion were recognised, the second era of globalisation began to emerge in the 1970's as the (vertical [2] or cyber(e-)financial) expansion of business space. Introduction of PC communication and then the rapid spread of the Internet all over the world, as well as that of financial engineering with a distribution network have significantly contributed to the penetration of the second era of globalisation. That is, cyber space built its base, and then (e-)financial space further easily inflated it beyond the limits of terrestrial, physical space. Science and technology in the second era has served economic growth, which has been driven by the split of human beings from nature, with the former controlling the latter, and marketisation by inductive rationality.

2.2 The third era of globalisation

The expanding model pushed the limits of the finite Earth. This has resulted in overpopulation, wasteful artificial products, energy/resource crises and the bursting of economical bubbles. As globalisation cannot now be stopped, we have to ensure that its 'third era' encourages the development of a sustainable planet and society.

For the economical growth in the second era, central powers, i.e., nations and governments, have been major actors. However, in the third era, a variety of entities such as local communities and specialist groups should take the lead in bringing back human beings to nature and de-marketisation. Developed countries have been facing a number of issues caused from the excessive use of energy and resources, such as heavy environmental loads to the Earth and resultant pollution in various forms, the progression of an ageing society, and so forth. Those who became acutely aware of these threats started private, nongovernmental or public projects to realise a sustainable planet and society from around five to ten years ago. [3]-[6]

We have to change the expansive model of globalisation into an issue-solving one, transforming the obsolete consumerist mindset/system into a more efficient and sustainable mindset/system. This is the pursued third era of globalisation, which the paper calls sustainable globalisation, which is different to expansive globalisation mentioned earlier. The third era of globalisation should be sustainable itself. The issues we are facing are simply expressed as crises, e.g., on energy, environment, disaster, aging of society, etc. Coping with these issues, we need resiliency and sustainability, and systematic crisis management. In many emerging (or developing) countries, expansive globalisation is still processing. However, the issues faced and tackled by developed countries are inherently due to explosive consumption vs limited Earth resources, and sooner or later emerging countries will experience the same issues if they follow the same route as developed countries. [7] Therefore, it is also important to recognise that many emerging countries are still in the expansive globalisation phase, and that we should cooperate with them so that they can avoid making the same mistakes made by developed countries.

2.3 Paradigm shift

The paradigms of the two eras of expansive globalisation are expressed simply as follows:

- First era: Invention of things to pursue ‘farther and faster’,
- Second era: Invention of virtual ‘things’ in addition to physical things and innovation of methods for these
to pursue ‘farther and faster, better, bigger and higher, more and much more, more with less, cheaper, and ever grow GDP,’ [8]

In contrast to this, the paradigm of the third era will shift to the following beliefs:

- Innovation and transformation for a sustainable life,
- Happiness and more efficiency regarding energy and natural resources,
- More gentle and attentive to people and nature, and
- ‘A small amount is enough’ - importance of GNH (Gross National Happiness), e.g.,
  HPI (the Happy Planet Index) [9]

3. Towards a new era

This section first explains activities required to realise a new era of globalisation, as represented by the Platinum-network and then based on the analysis of these activities presents what is needed for the third era.

Studies related to the Platinum-network started about five-six years ago. They published a ‘Plan for the creation of new industries’ in June 2008, followed by ‘Vision 2050.’ [5] The Platinum-network was established in Aug. 2009. According to its web site, ‘by bringing together the current and future projects independently developed by local governments, universities, national and private research institutes, enterprises and overseas cities, the platinum network brings about the creation of new value and economies of scale in a variety of areas, such as knowledge, information, production, manufacturing and distribution.’ [6] That is; their activities embrace relevant stakeholders.

It should be noted that their proposal and action plan are now evaluated as ones with the wisdom and power to have seen into the future, after we experienced the ‘Lehman shock’ (15 Sept., 2008) and the ‘Great East Japan Earthquake’ (11 March, 2011) which resulted in the Fukushima nuclear power plant disaster.

What is needed to cope with the issues in the third era of globalisation is summarised in Table 1, in which we added several items and modified the studies of the Platinum-network [10], etc. Environmental (global warming and pollution), natural resources, food supplies, and health care problems have been regarded as costs, but should be regarded as investments to the future. In order for humankind to maintain the current and future social systems, it is crucial to find solutions to these problems. Developed countries which have been confronting these problems have a potential to provide ‘State-of-the-art Models’ of solutions. [10] In particular, Japan is a forerunner in the issues and
concrete problems in a globalised 21st society and the world. During this process, the youth should go wherever the problems are prevailing, apply the solutions they or we have found, and create new methods to apply to these problems. Their practical and real experiences will also develop their value as future society creators, which is one of the discussion points in the next section.

<table>
<thead>
<tr>
<th>Issues</th>
<th>What is needed</th>
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<tbody>
<tr>
<td>Knowledge to issues linkage *</td>
<td>Knowledge has been exploding but so far not solved and/or been directly connected to complex multi-variable, multi-dimensional problems</td>
</tr>
<tr>
<td>Myth of 'Growing'</td>
<td>Floods/overuse of artificial products by the myth of economical growing, and Unconscious heavy reliance on these products and the resulting environmental pollution; air, water, foods, etc. [8]</td>
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<tr>
<td>Smart use of resources</td>
<td>Energy crisis, natural resource exhaustion</td>
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<td>Matured society</td>
<td>Ageing society progress, especially becoming obvious in developed nations</td>
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<tr>
<td>Emerging nations' requirements</td>
<td>Asia rapidly growing followed by Middle East, followed by Africa</td>
</tr>
<tr>
<td>Global/local balance</td>
<td>More and more connected – networked, and Global civilisation vs cultural diversity [11]</td>
</tr>
</tbody>
</table>

* This is also pointed out by ref. [1]

4. Employability

4.1 What is ‘employability’

There can be found a number of studies on employability. According to ref. [12], a simple definition is ‘a person’s capability for gaining and maintaining employment (Hillage and Pollard, 1998).’ Reference [13] gives ‘the acquisition of attributes (knowledge, skills, and abilities) that make graduates more likely to be successful in their chosen occupations (whether paid employment or not).’ This is related with L. Harvery’s briefing paper in which he gives an excellent, extensive description of employability as being, ‘about developing a range of attributes and abilities, not just job-getting skills,’ and ‘in essence, the emphasis is on developing critical, reflective abilities, with a view to empowering and enhancing the learner. Employment is a by-product of this enabling process.’ [14] The present paper extends this view in the environment of the third era of globalisation.

It is the recent trend, especially in Japan, that younger people want to find work/job best suited to them. However, ‘working’ is the process itself of exploring what a human possesses and thus to be transformed into another human through the current work. [15] Moreover, it is possible for acute individuals to create a new type of work. On the other hand, employers say, ‘The HE sector does not produce the kind of graduates we require,’ meanwhile the HE sector say, ‘The kind of graduates required by industry is unclear, and moreover executives, managers, sub-leaders each say different things on this.’ Employability including self-employability means that a person can do the above or at least is ready for this, not that he or she can do something immediately after (higher) education and training. This should be shared among employers, the HE sector and younger people including students.

It is important to note that employability in this uncertain and changing age should not assume the present or near future situation but what is needed for future society and humankind; that is, it should make possible for the future generation to enjoy a stable life sustainably. For this, we have to foresee the future desirable society first. Until the late 20th century, foreseeing the near future was not so much difficult, because it was basically done with simple trajectory forecast, considering one’s own nation and the relationships with neighbour nations/groups and major trading nations. Entering the 21st century, this method has not been workable since the future is clouded. However, the basics are not changed; i.e., knowledge, skills and abilities on intellects, personal effectiveness, work execution/mgmt, engagement, influence and communication. To be ready for an unpredictable future, it is necessary that one should acquire knowledge and skills to use these basic skills adequately, applying them flexibly as required.

Employability is expressed as one’s potential and influence in helping to create the future society.
4.2 Knowledge, skills and abilities needed for the three eras

The knowledge, skills and abilities required for globalisation in each era vary depending on the characteristics of each era as follows:

1) The first era: expand the market to other physical and virtual areas:
   - Grow business; develop tools and means for this purpose; and operate these.
   - Link knowledge with global issues; create ideas, tools and means for this purpose; transform past methods; implement, operate and manage these adjustably and resiliently; and find and/or create new work models.

2) The second era: expand the market to logical, virtual and different space:
   - Grow business; create ideas, tools and means for this purpose; and implement and then manage these.

(2) Compared with the first and second eras, the third era needs knowledge, skills and abilities that will help transform mindsets, systems and thus society from an expansive model to a new globally sustainable one; i.e.,

   - Necessary basic knowledge, skills and abilities are the same in any age; e.g., finding/formulation/solving of issues and understanding of communication with different cultures.
   - In the third era of globalisation, these are somewhat differently expressed as the ability to conceive new ideas from nothing particular, to transform existing (complex) things and ideas into efficient (lighter) ones and to create new deliberate methods in a variety of environments and cultural backgrounds.

   - In addition, tackling the issues listed in Table 1 needs an issue-oriented approach with a broader view, and the issue-oriented activities are supported by discipline-oriented activities. This type of approach requires people who 'know something of everything and everything of something.' [Note: this expression is attributed to J.S. Mill.]

   - For example, Figure 1 depicts a historical overview on the relationship between knowledge, skills and abilities, and the major occupation types of graduates from the University of Tokyo. It should be noted that the components in the figure are incremental from left to right, indicated by 'plus' signs.

   - All members of HE, industry, government and community should collaborate to enable talented people to carry out the above as pioneering leaders, while transforming old systems into new systems and actively creating new work areas by themselves.

![Diagram: Historically as a National University vs Modern age: 2nd era of globalisation vs Third era of globalisation]

Fig. 1 Knowledge and skills vs occupations – UT-graduate cases

5. Examples of activities related with the sustainable globalisation

This section shows some examples of activities related to the third era of globalisation, especially from the viewpoint of appropriate opportunities for younger people to experience the real issues and create new work models.

5.1 Graduate Program in Sustainability Science (GPSS) [16]

This is an international graduate programme to train internationally-minded professionals and researchers who can help create a sustainable society. Formally started in spring 2008, GPSS and its extension is a collaborative programme created by five departments at the UT Graduate School of Frontier Sciences, supported by Transdisciplinary Initiative for Global Sustainability (TIGS) and Integrated Research System for Sustainability Science (IR3S). It also cooperates with the Platinum-network and Kashiwa-no-ha-project. All lectures and practical courses are carried out in English for ‘Master of Sustainability Science’ or ‘Ph.D. in Sustainability Science.’ According to its web site, it is intended that the graduates should take an active role in efforts to achieve sustainability.
in a socially, culturally and economically diverse international society, as well as the local communities that form parts of that society. [16]

The programme was expanded to a new ‘Graduate Program in Sustainability Science - Global Leadership Initiative (GPSS-GLI)’ in spring 2012, which cooperates with UN University and foreign universities. It was selected as one of MEXT’s Doctoral Course Leading Programmes - Complex Field (Environment.) The GPSS-GLI develops leading people who should work in the UN, international public organisations, global enterprises, governmental organisations, etc., solving global problems in an interdisciplinary manner.

5.2 Projects for Disaster Countermeasures in UT [17]

The University of Tokyo established the ‘Great East Japan Earthquake Headquarters for Disaster Countermeasures’ immediately after the earthquake to coordinate the University’s response. It has been providing not only relevant information about how the earthquake impacted and has been impacting on the University environment, measures and countermeasures, but also serves as a focal point to encourage and support voluntary projects by the public, students, academic and administrative staff. Its web site shows a list of a variety of over 80 projects, which provide students with the experience practical problems solving by participating in ‘do for other’ type activities.

5.3 Other examples

There found a number of formal, semi-formal and informal ‘do for other’ type projects all over the world. Their examples are ‘do for the poor’ and ‘do for LDD (Least Less-developed) countries.’ As examples of the former case, Teach for All/America [18], Teach First [19], etc. are providing superior new graduates with work experiences in educating children growing up in poverty to receive an excellent education. The latter case is to transform daily life in the LDDs by using their special products or things. An example of formal project is the Millennium Project which was commissioned by the United Nations Secretary-General in 2002. It develops a concrete action plan for the world to achieve the Millennium Development Goals (urgent eight goals against poverty, hunger, disease, etc.) for 2015. Among them, Goal 7 is ‘Ensure Environmental Sustainability,’ and Goal 8 is ‘Develop a Global Partnership for Development.’ [20]

‘Employability’ in the above examples is obviously concerned with students and education providers but also involves enterprises, NPO’s, governments, communities, and society as other stakeholders.

6. Conclusions

The role of top universities is to develop the future generation of leaders through education, to create knowledge and research, and to provide services to society. The balance between these three roles has been changing from age to age, and the recent recognition is that these three are all equally important. In fact, they can be realised by supporting each other and being mutually linked.

In the 21st century global society, these three roles can be rephrased as follows: i) to deliver leaders who try to solve the global issues of 21st century; ii) to create new knowledge especially to cope with the above issues and share it with society, and iii) through the activities relating to these, to contribute to the realisation of sustainable society, regions and communities. In this context, employability itself is not a fixed objective relating to success in job recruitment activities but is about future potential. Thus, it is not only a matter for higher education (HE) institutions, but also the foundations of our future society.

The issues for ensuring employability for the era of sustainable globalisation can be summarised as follows:
- HE community should create a picture of future global society and life,
- Industry should talk and collaborate with them to jointly develop models and implementation methods for realising the picture,
- During this process, ‘employability in the third era of globalisation’ should and will be shared and implemented.
- Meanwhile, the youth should create new work models by themselves to ‘do something for someone in a global context,’ and
- The industry, HE, public sectors and communities should support them and these groups should share the above ideas and processes for realising a sustainable global society.

Acknowledgement

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References

1. J. S. Mill, “Inaugural address, delivered to the University of St. Andrews,” 1867
   http://www.archive.org/details/inauguraladdress00milluoft
   http://ihe.britishcouncil.org/going-global
14. Lee Harvey, ‘Transitions from higher education to work,’
15. Taisuru Uchida, “Door to your career has no doorknob,” Asahi Shinbun, Apr., 2012 (in Japanese)

Biography

Makoto Yoshida is Emeritus Professor, the University of Tokyo, currently responsible for the innovation of engineering education and the application of ICT to education at the Global Centre for Innovation in Engineering Education, the School of Engineering. He holds a B.E. in the electronics engineering and a Ph.D. in the electrical engineering from the University of Tokyo.

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