

Reflections on the ninth Foresight Panel Meeting

Friday May, 7, 2010

Panel: Jeanette Blomberg, Jan van Leeuwen and Jim McGroddy (cancellation from John Leslie King).

Participants from the IT University: Mads Tofte, Jørgen Staunstrup, Jens Christian Godskesen, Carsten Schürmann, Jakob Bardram, Rune Møller Jensen and Gitte Gramstrup.

Agenda:

1. State of the IT University (Mads Tofte)
2. Research presentation (Rune Møller Jensen)
3. Presentation of and by Head of Department (Jens Christian Godskesen)
4. Research 2015 (Jørgen Staunstrup)
5. Emerging research trends (brainstorm)
6. Feedback from panel to ITU Board and management

1. State of the IT University

Mads structured his presentation around the four topics a) The political context, b) Summary of the Annual Report, c) Value creation for the Copenhagen Region and d) The IT University as an organization.

The panel was satisfied that the IT University seemed to have managed the risks associated with the University Evaluation report of 2009 and dealt positively with some of the issues raised by the report. They strongly believe that it is important for the university to continue as an independent university. The panel was pleased that the number of EU research projects with participation of ITU is increasing and that the evaluation report has intensified the work on anchoring the globalisation strategy within ITU.

Concerning the Global Interaction Research Initiative (GIRI), the panel was satisfied that the GIRI activities now involve an increased number of researchers.

The panel advised ITU to focus on its unique strengths and accomplishments and not evaluate its importance only by simple comparisons with more traditional universities. Instead, there is a good story to be told about the ITU creating value and society getting a good return on the investment in the IT University. For example, the fact that the IT University is causing a marked increase in the number of IT students at the bachelor level is suitable for external communication. Similarly, despite an increase in the number of unemployed fresh graduates, the net impact of graduates from ITU in employment must be told, both statistically and through examples.

Concerning the PhD programme, the panel was pleased with the increase in the size of the PhD programme. At the same time, the panel raised the topic of PhD students staying or leaving the country after having completed their PhD. The panel believes it will be important in the long run that a significant portion of the PhD graduates make a career in Denmark given that PhD students are funded by the Danish state. The panel recommended developing a way of tracking the careers of the PhDs and for maintaining contact with them even if they return to their home country.

Asked “what keeps him awake at night”, Mads answered that he is very worried about whether the IT University is serious enough about acting on globalisation. Many Danes, and even many employees at the IT University, do not seem to appreciate the sheer scale of the changes that are happening in the world, as a result of the developments in particularly China and India. The fear is that Danes and indeed faculty and staff at the IT University will continue doing what they have done very successfully in the past, while the rest of the world moves on.

Reflections:

- Essential that the IT University always is innovative and achieves results that are difficult to achieve in larger organizations. In particular, it is important that ITU continues its efforts to anchor its globalisation strategy amongst students, faculty and staff. Involvement of faculty and staff in creating a shared view of globalisation and global interaction is essential.
- The IT University must continuously tell the story to stake holders about the value the IT University gives back to the Danish society for the money invested in it. The IT University must position itself as being “part of the solution, not part of the problem” that the Danish Government and society is faced with as a result of the changing economic and technological landscape.

2. Research presentation

Rune Møller Jensen structured his presentation around the Algorithmic Intelligence research initiative and Liner Shipping Research at the IT University and explained the purpose, research, motivation, vision and organization. The established contact with Maersk and the industrial collaboration approach was described.

Recommendations from the panel: Both the Liner Shipping Research and the Algorithmic Intelligence research initiative are exciting. As to the Liner Shipping research, you have a unique opportunity with access to a world-leading company (Maersk) with a good “driving problem”. The cooperation clearly leads to novel research issues and should be cherished.

Concerning the Algorithmic Intelligence research initiative, the area is important, but the vision presented for the cooperation still looks like the concatenation of the individual visions from people in the group. Create a common vision which highlights what value you aim at creating. There is a lack of alignment between the visions and the goals. Be more ambitious!

Concerning data mining, better use of data in Health Care is another driving problem, that could be a focus for the Algorithmic Intelligence Initiative.

Reflections:

- Continue the good work on shaping the Algorithmic Intelligence research initiative
- Scale up, be more ambitious!
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3. Presentation of and by Head of Department

Jens Christian Godskesen structured his presentation around a short presentation of himself; his broad objectives in becoming Head of Department; and his main focus right now, including anchoring decisions within faculty. The presentation also included a status on the expansion, common values, and challenges of the Department.

Recommendations from the panel: Prepare yourself for the very difficult and challenging task of transforming the IT University from being a new and relatively small organization to an established one. It is difficult to get one group of people interested in what another group is doing and not losing people in the process. Be firm.

Reflections:

- The Foresight Panel suggested that Jens Christian put down in writing the expectations he has to faculty and, moreover, that he makes the expectations easily accessible to the faculty.

4. Research 2015

Jørgen presented Research 2015, a process for ensuring that researchers are involved in and take responsibility for budget decisions related to research for 2011 and the subsequent years. Research 2015 is organised as a wiki where all members of the research board may contribute. Jørgen focused his presentation on these sections of the Wiki (Research 2015) PhD School, increased external research funding, EU funding, commercial exploitation of IPR, new research initiatives, research management and scouting for faculty.

Recommendations from the panel: Interesting process, that may take several years to make it work. Make sure that the goal of increasing external funding is a key parameter when hiring new faculty. Consideration of PhD students should include some deliberation of their long term potential contributions to Denmark's growth and well-being.

Reflections:

- Although the research strategy and its focus on external value creation (collaboration) have been important aspects of faculty recruitment and promotion in the past, they should be emphasized even more in the coming years
- Make a thorough analysis of where PhD graduates have been employed, in particular where foreign PhDs have been employed. Ask the PhD school to consider ways of encouraging PhDs to stay in Denmark.

5. Emerging research trends

Mads presented this scenario and these questions: Suppose the IT University wanted to produce more STÅ, more PhD graduates and research articles within IT than any Danish university did in 2008. 1) Should the IT University adjust its profile (e.g. balance between research and teaching)? 2) What research areas should the IT University consider building up? 3) What new areas of teaching should we create?

Views from the panel after a brainstorm: The University leadership should make a major effort to lead an effort involving academia, government and industry to ensure that Denmark plays a major role in IT, focusing on application areas where Denmark has demonstrated strength and advantages. This project fits well with the focus on globalization, and would, with some success, demonstrate the long-term value created by the ITU investment. The goal should be to have several areas, for example, shipping and health care, where synergies among the ITU and other academic partners, the Ministry, the national investment in infrastructure, and companies leads to leadership and significant net export within the sector. Begin by making a presentation on ideas, a vision of what technology will enable and how technology will be exploited, share it with potential stake holders and ask for their opinion and involvement. Success in this effort would likely involve the milestone of doubling the size of the IT University, since it represents a challenging, yet realistic transformation. Find a certain focus: What do you need for the growth you are looking for? If you spread your competences and your domain knowledge too thinly, you will not have sufficient power to make a substantial difference for the country. Therefore, one more research field at most and a small number of domains are recommended. Elements in national politics give you perspective. Talking to industry gives you answers, but your inspiration should also come from a broader set of scientific and economic trends.

Mads listed opportunities – E-government, healthcare IT, smart electricity management, IT governance – and threats – severe budget cuts.

Recommendations from the panel: You are on the right track, but show your visions to industry, government etc. Find out how to challenge and align the faculty to help carry through visions of the IT University. Step out and lead. Go public with your visions – do not be shy. Make a presentation and show it around – this can be very effective. The IT University has a unique vision which limits the value of only comparing the IT University with other universities. Instead stress the particular strengths of the IT University, including collaborations with industrial partners, and a focused research agenda Do not

spread your research areas too much. Choose one or two application domains and develop these. One application domain from the business domain and one for society in general would be a good choice.

Reflections:

- Developing domain knowledge (e.g. within Health Care or Logistics) takes many years. There are limits to how many different domains the IT University can pursue, if the insights are going to be deep and impact strong on the selected domains. We need to concentrate on domains where Denmark is or can become a world-leading provider of services or goods to the rest of the world. We need to scale up our activities in a couple of such areas to increase the practical impact of our research.
- Step out and lead the creation of an ICT agenda nationally.

6. Feedback from panel to Board and ITU management

With recurring pressure from the Ministry on the IT University it is very important for the university to present itself to the government as part of the solution and not part of the problem.

You have to reach back to primary school to get the young people, as we need more IT-people in the future.

Improvement in the PhD program is very good and important. Many PhD students at the IT University are from other countries. Make sure that you maintain your network with those who leave Denmark after completing their studies, since they can provide a good platform for global interaction.

Taking on a head of department is a right and important decision, and obviously there is a lot of work for him to do.

Consider how much growth you want to foster, making sure you do not undermine your ability to be nimble and innovative in the process. A doubling would be a bold step and would require the university to take leadership at a national level, but we believe you are capable of doing so. A doubling will demand more projects with industry. Continue the current activities and improvements, but also focus on clustering. Choose one or two areas, where you can make a difference, and see where it leads you. Assess how you can defend your plan. The panel is convinced that the opportunities are out there. Look out for any foreseeable areas where the government is willing to fund research. The difficult thing is to find sustainable funding, but it is important to begin to establish a portfolio of funding possibilities. Show the government that investing in the IT University is an investment in the future of the country. Be patient – things take time. Denmark could be a significant player in supplying technologies to the world, but be aware not to choose areas with a long history of failures.

Remember to reaffirm the special view the IT University has on the positioning of IT with society and business – this is important to keep. It is important to involve faculty and staff in creating the agenda for how the university can get as much impact as possible.