

# Responses to John L. King on *Support Economy U*

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Three main questions have been posed in response to the paper “*Support Economy Research U – Policy Considerations for a Networked University Enterprise.*” Following, I hope to provide clarifying explanations and extensions to the work done, with the intention of fulfilling the requirements for the precandidacy project in the University of Michigan School of Information Doctoral Program.

## **1 What weaknesses are there in the approach?**

As rightly pointed out, the original paper does not discuss the weaknesses in applying the Support Economy model to the future research university issue. This is, of course, not to say that weaknesses are absent. As I perceive it, the major weaknesses in the theory fall into five categories, as follow.

### **1.1 Alternate possible paths**

As with any predictive model, there is no guarantee that the path described is the one that will eventually manifest. There are several other possible scenarios. For example, the current structure of the university may survive, remaining as

independent bastilles of education – centralized, geographically collocated, and distinct in identity. Another possible path draws from the opposing view of market economists that the network model is not the direction in which we are heading. This camp believes that the firm is moving in the opposite direction, and the consolidation into a small number of multinational corporations is inevitable – the oligopoly solution. Finally, there are futures of the research university, some unlikely, some as yet unidentified, that are yet different from the ones discussed. The model presented in the paper, I believe, is one of the most likely scenarios based upon current observations of economists, organizational theorists, and pundits in the higher education arena.

## **1.2 Mismatches between Support Economy assumptions and university mechanisms**

Zuboff’s Support Economy theory is designed to address shifts and changes in the market economy at large. While the university, becoming increasingly dependent upon private, industry, and special-interest based sources for research funding, is not necessarily to the point of functioning like a “typical” pure-market entity. Academic and knowledge production may, in fact, always be a different process than product and service markets, given the concentration on and reliance upon human capital. As such, the ways in which support economy principles describe and predict market phenomena, Zuboff’s *capital market* vs. *federated market* distinction, might not always apply to the university environment in any incarnation. Only time will tell whether the academy can be fully transformed into a market-based entity with no noticeable distinctions in business operation than a corporation.

### **1.3 Lack of technology to support the full network model**

Olson and Olson champion the “distance matters” battle cry<sup>1</sup>. As a decentralized and disaggregated entity, the support economy university will be heavily reliant upon emerging technologies and CSCW advances to survive. As already seen in the caveats provided by MIT in the OpenCourseware project, simply being exposed to lectures via streaming video does not guarantee the level of education in “being there.” Until technology is able to adequately address the limitations in distance-based work and communication, the envisioned power of the support economy university may go unrealized. The quality of education, and further the validity of degrees will be compromised, possibly to a degree that is unacceptable to the academy’s standards. As discussed in the paper, it is likely that a centralized entity dedicated to the review and vetting of degree programs will likely need to be established to maintain quality control of the degree-granting process in the support university.

### **1.4 No equilibria to be established for transaction costs in the support economy university**

As discussed in the paper, the breaking apart of institutions and establishment of smaller, reconfigurable sectors of higher education creates higher transaction costs in coordination. In practice, it is only a guess as to what the exact nature of these costs will be. Since the burden of communication and coordination becomes more distributed, and in an unknown pattern, the possibility exists that no equilibrium may be found between the cost of supplying an education under the federated

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<sup>1</sup>Olson, G., and J. Olson. (2000) *Distance Matters*. Human-Computer Interaction 2000. 15:2&3, 139-178.

model, and the demand for such education at the prices that emerge. As pointed out by Lucy Suchman, the costs of *articulation work* when implementing technology are non-trivial. The support economy model, heavily reliant on technology, stands to generate significant articulation work. Zuboff's theory predicts lower costs in engaging members of the network, and it follows that this would be true, since the services provided by any network member are a fraction of the educational experience previously gained by blanket tuition payments to a traditional university; however, it remains to be seen whether the summation of all costs borne by the transformation are less in aggregate than current costs. If an equilibrium cannot be found, or new mechanisms not designed to mitigate this possibility, the support network university environment stands to push the barrier to entry in higher education further up the socioeconomic chain.

## **1.5 Social infrastructure and traditions are difficult to shift**

The academy as an institution has a rich and long history. As such, it stands as an entrenched cultural icon in its current form. The shift to a model that may be largely unrecognizable is an obstacle to be overcome. While the market mechanisms described in the paper may be driving forces in altering the infrastructure of the university, the existing structure does provide a sense of “the order of things” to those that may become “old guard” scholars. Since the leadership of major universities traditionally comes from senior academics and administrators, it may take several generations for a new model or infrastructure to be embraced, much less implemented. The need to evolve quickly may not be compatible with the changing times, and the observation of the academy by Frank Rhodes, emeritus president of Cornell University – “I wonder at times if we are not like the dinosaurs,

looking up at the sky at the approaching asteroid and wondering whether it has an implication for our future.” – becomes more salient<sup>2</sup>. Still, it stands to reason that an institution and cultural icon like the university will be resistant to change. Under the federated model, institutional identity may undergo significant transformation, including the potential of dissolution. The social standing of being a “Harvard grad” (for example) may become an anachronism. Since the social signaling gained by institutional affiliation is an entrenched social convention, abandonment of this tradition may be impossible to overcome in favor of a federation regime.

## **2 How will a transition be made to the Support Economy model?**

I’m unconvinced that in making a transition from the current model to the SE model is completely path dependent. As a mentor in undergrad said often, “There are a lot of roads that lead to Reno, and it doesn’t matter which one you take, ’cause everyone ends up gambling just the same.” The paths by which the research university can transform are many, and there are likely numerous transitional states that lie between the start and the destination (if there even is such a thing.

Destinations are not for entities that are continually evolving, and the academy is an evolving form.) From a policy-making standpoint, this might be problematic.

First, the context in which each university changes may, at the start, be context dependent; the steps to initiate transformation may be different for each university. A better strategy may be for university decision makers and visionaries to agree on a set of metaprinciples guiding the academy, designed with the metaprinciples of the

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<sup>2</sup>Duderstadt, J. (2000) *The Future of the Research University in the Digital Age*

support economy in mind, and allow institutions to make custom roadmaps that will allow transformation. As the predicted federations emerge, institutions will adopt mechanisms and infrastructures to allow enrollment into the new structure as they are ready.

The question was posed, “Is this an idea, or an ideal?” While on the surface the description lends itself to a Utopian view, my perception of the Support Economy university is anything but idyllic. It is possibly one of the least elegant solutions to higher education infrastructure. It involves a number of possibly detrimental aspects to the academy, such as:

- Physical separation of teachers and students or research collaborators, possibly without technical or communication support to allow acceptable levels of productivity
- Potentially high and unforeseen transaction costs
- Destruction of identities that have been cultivated over several generations - the loss of tradition
- Difficulties in ensuring quality control over a network - will degrees mean anything anymore?
- Difficulties in converging on standards of practice without formal hierarchies
- Complete commoditization of education, including the loss of philosophies and vision that has driven the academy
- Placing the academy, generally known for enduring difficult economic times, in a position to fail at the same rate as businesses
- and on...

Clearly, not an idealized vision of the future. My primary goal in the paper was not to suggest that this path is the most efficient or preferred; rather, it is a projection that, under the assumption that Zuboff and Maxmin's SE model has merit and a reasonable probability of manifesting within the market, what is the likely effect on the research university. My sense is that the infrastructure of the academy would need to change in order to remain compatible with the emergent market structures, especially since increasing levels of funding are drawn from those sectors. As the university becomes more defined as *enterprise* rather than institution, it would need to remain compatible both in infrastructure and standards practices to keep interaction costs manageable. The growing synthesis between academic research and industry funding, I believe, is the key to making this theory tractable in the real world.

### **3 What levels of the problem does this approach address?**

Is the SE model, as applied to the research university, a complete solution? It depends on the level of scale being addressed. In the context of the university enterprise as a service provider, it may well be. The necessary components to constitute a valid education will likely evolve. Niche markets will naturally evolve to fill the spaces needed. Whether they be small service providers to, for example, manage correspondence with a committee (of which there may be many such services from which to choose) or centralized clearinghouses (such as a central authority to dispense financial aid, research grants, or validate degree programs) – the voids to fill will be clear, and enterprising individuals will seek to fill the gaps.

From an economic standpoint, while the SE model purports to lower costs of services, this remains to be seen. As noted earlier, the potential exists to widen the gap between those who can afford an education and those who cannot. Complementary services and industries to ensure the widespread access to education and research will need to be put into place. Further, new models of resource distribution (over a network), equitable division of credit for collaborative work, and complex regimes to assign intellectual property rights will need to be considered. Since the Bayh-Dole act specifically addresses the right of universities to maintain a stake in innovations created under their auspices, what happens when the concept of “a university” is no longer relevant?

From a social standpoint, there is a danger of diluting or destroying a cultural icon that serves as a prominent cornerstone of social stratification. In order for the SE university to be successful, society would need to develop new expectations and legitimate new signals for higher education. This is perhaps the largest-scale issue – changing what the university means to society, and ensuring that a form that remains recognizable outside of the academic environment.

On a philosophical level, however, the SE model may be an incomplete solution. The core values of the academy, such as the unbiased pursuit of knowledge (especially basic research) may find it has no place in a market-based environment. The interests of innovation, rather than discovery, or dissent, or criticism may leave the less practical (but undoubtedly important) disciplines starving until they simply die off. The disciplines have differentiated through an evolutionary process, but it would be lamentable to see large branches of that evolutionary tree arbitrarily pruned because an economic framework had become the only valid one. To solve this problem, it would be necessary to keep the university enterprise set apart in cultural value from businesses, much as it (theoretically) is now.

## 4 Potential dissertation topics in the idea space

- Efficacy of and trends in distance advising and work routines between graduate students and faculty advisors – Collaborative technologies and ICT advances, even in the face of distance mattering, have allowed greater communication between scholars at a distance. A dissertation topic could center around measuring if there is an increasing trend for doctoral students to work with faculty who are not geographically co-located, and if the level of production, subjective satisfaction with the advisor/advisee experience, and effects on job placement are significantly different between groups that do work with extra-institutional faculty and those who do not.
- Mapping the transformation to a support economy academy – As discussed in Section 2, the path from “what is” to “what will be” is a winding and treacherous path. In order to make a successful transformation (assuming the predictions of the model are correct), the design of a plan to get from here to there must be carefully constructed. In order to avoid the destructive nature of change with respect to the academy’s core values and missions, a policy and business roadmap would be of great value to those responsible for shepherding the change. A potential dissertation would be to apply various frameworks of change management to construct the roadmap. For example, Brynjolfsson and Van Alstyne’s Matrix of Change could be modified to map the transitional states and economic transformations necessary for a viable shift<sup>3</sup>.
- Change in distribution of research dollars toward applied vs. basic research – It has been lamented that the funding that drives basic research has decreased

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<sup>3</sup>The Matrix of Change: A Tool for Business Process Reengineering,” by Erik Brynjolfsson, A. Renshaw, and M. Van Alstyne (MIT Sloan School Mimeo, December 1995)

significantly, and applied research is being driven by the interests of those unconnected with the academic mission of pure discovery. Collins calls for the academy to take back the reins of scientific direction from the public and policy makers<sup>4</sup> while Sheila Jasanoff, in a similar but less extreme vein, advocates the closer assessment of public participation in directing scholarship<sup>5</sup>. A possible dissertation topic could be to first analyze the change in distribution of funding that is directed toward both basic and applied research for a specified time period. This will quantify the extent to which current concerns are warranted. Further, surveys may be conducted among academics, policy makers, and the public to determine each groups' views on "who is responsible and who should make the decisions" with regard to science policy. From this, empirically-based recommendations for future science and research policy may be informed.

## 5 Concluding thoughts

While the Support Economy model, I believe, is a viable one, it is by no means the only, or even optimal path to be followed. The framework laid out by Zuboff and Maxmin draws from strong historical economic evidence that market culture has a strong possibility of heading in this direction. As the research university becomes increasingly enterprise-based, it is not unreasonable to project that university business processes will follow along a parallel path, and the changes in infrastructure seen in the business world will inevitable affect the connecting infrastructures of the university. Inelegant and holding the potential for great

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<sup>4</sup>Collins, H. M., and R. Evans. (2002). "The Third Wave of Science studies: Studies of Expertise and Experience". *Social Studies of Science*. 32/2. 235-296

<sup>5</sup>Jasanoff, S. (2003). "Technologies of Humility: Citizen Participation in Governing Science." *Minerva* 41: 223-244

destruction, the support economy model also has the potential to provide students and faculty with greater possibilities of global collaboration, customization, specialization, and knowledge production in an environment previously unexperienced. The eventual outcome is uncertain; however, the world, markets, economies, and of course, the university will continue to evolve. Laying a policy roadmap to endure the transitional phases of this transformation will assist in the university maintaining its cultural standing, traditions, and core values while remaining a contemporary and active contributor to social and economic progress.