



The importance of supply chain research to Industry and Society

By Dr John Gattorna



In the context of supply chains, when we speak of 'bridging gaps' we are usually referring to gaps between an enterprise and its marketplace. But it can also mean internal gaps in a firm's structure. In my own 'thought leadership work over the past two decades, I have focused my research activities on the gaps and misalignments between the marketplace and a firm's strategy (including logistics/supply chain strategy); between this strategy and the firm's underlying cultural capability (otherwise known as implementation/execution), and on the firm's leadership style, the ultimate shaper of the underlying culture and driver of what gets done in its supply chains.

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So right up front I will signal my own bias when conducting research: it must be multi-disciplinary, because that reflects the real world we live in. And yet we see so little research being carried out in this category: research designed to benefit Industry and society at large. It is difficult to get a full picture of exactly what supply chain research is being undertaken in universities. Some Indexes exist, but the task to achieve full visibility is not easy. What we normally find are little 'islands of supply chain research excellence' in many universities across the region.

So, too, there exist in Asia only a few true research institutes focused on logistics and supply chain research. In Australia, for example, I know of only two: the Institute for Logistics and Supply Chain Management (ILSCM) at Victoria University, Melbourne; and the Institute of Transport and logistics at Sydney University. Perhaps it is time we showed some 'collaborative spirit' among universities across the Asia Pacific region, and develop a consortium with the resources to launch a larger Asia Pacific Supply Chain Research Institute, which would include a 'Collaborative Knowledge Exchange'. Academics talk a lot and write a lot about 'collaboration' but don't practice it much. But the fundamental problem we have in this field of 'supply chain' is that despite its pervasiveness to our modern way of life, it is so little understood by consumers at one end (the ultimate beneficiaries), and government at the other (the primary funders).

Going back to the example of Australia, there are 30 or so SRC research grants currently available in the country, but not one of those focuses on the areas of logistics and supply chain management. With logistics representing some 14.5% of GDP, it would be helpful to nail the issue from the outset and come up with the cost and contribution of logistics and supply chain activities to the Australian economy and other national economies in Asia. I can assure you that the final audited figure would be bigger than most people are aware of, and bigger than most people can even imagine. Once the real figures are out in the open, there would certainly be much more interest in research in this vital area of the economy.

University research — some useful definitions

Many readers will already be well aware of the tension that exists in most universities between 'academic' or 'theoretical' research, and what I shall term 'applied' research. The former is driven by KPIs inside universities that require academics to write a certain number of articles each year in refereed journals; while the latter is more about the creative use of existing knowledge to solve real or perceived problems in industry and commerce.

At this stage, some research definitions are probably in order.¹

Pure basic research: this is experimental and theoretical work undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge.

Strategic basic research: this is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas in the expectation of practical discoveries. It provides the broad base of knowledge necessary for the solution of recognised practical problems.

Applied research: this is original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken

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either to determine possible uses for the findings of basic research, or to determine new ways of achieving some specific and predetermined objectives.

Beyond these is 'consulting,' which is essentially an extension of the applied research definition for very specific commercial purposes, the results of which are mostly kept confidential. Sometimes universities, many of which have commercial arms for consulting and revenue raising purposes, have difficulty with the clash between 'consulting' (and the consequent limits placed on dissemination of knowledge), and the three research categories defined above.

Of course, working in research laboratory conditions inside a university is not enough when researching management science subjects such as logistics and supply chain management. Indeed, our true 'laboratories' are the institutions that allow researchers in to observe and investigate, and this is why the link between universities and industry is so vital, particularly in these difficult trading times. Without industry 'laboratories' we are seriously disadvantaged, and this is obvious from the relatively thin quality of the research that comes out of some universities.

This issue was brought home to me very strongly when I started working with Accenture (then Andersen Consulting) in their global supply chain practice in 1995. I could not help but be awed by the quantity and depth of knowledge that Accenture consultants were privy to compared to their university peers. Accenture recognised what an asset they were accumulating, and was the first consulting house to develop a global Knowledge Exchange (KX) on a Lotus Notes platform. They subsequently went further and developed the Accenture Supply Chain Academy where this knowledge is packaged up and made available for online learning of staff within their considerable base of consulting clients, at a price. It has become a new revenue stream in its own right, but more importantly, a soft marketing tool.

Window of opportunity

The global financial crisis and recession perhaps creates a 'window of opportunity' in the area of supply chain and logistics research. As the recession has deepened, both enterprises and consumers have changed their 'buying behaviours'. In search of cost reduction and service improvement, firms are now directly targeting new business methods and models. In this new environment, careful research is required to better inform where to allocate scarce resources.

At the same time, consumers are pushing governments around the world to recognise that we are now in serious trouble with climate change, and the logistics and supply chain industry are front and centre of this concern when it comes to the carbon footprint left by operations that make and move product from source to consumption. 'Sustainability' of these operations is in question, and a significant research effort is required to define the future direction we should take. Associated with this is the emerging concern among consumers about just how products and services are produced and delivered for use, better known as Corporate Social Responsibility (CSR). In his new book², *Hot, Flat, and Crowded*, Thomas Friedman foresees that the way out of the current mess — where global finances and global climate have collided in almost 'catastrophe theory' proportions — is to invest

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in renewable infrastructure rather than try for quick fixes like so many governments are doing.

Here in Australia, we have very few world-scale industries, but the one we do have, resources, is the biggest. Yet here is an industry that uses few if any supply chain best practices. Surely the resources industry, intrinsically rich in funds, is a target for research designed to deliver new and more sustainable practices. We have to get beyond the type of practices witnessed in 2007/08, when the queue of ships waiting for coal outside Port Waratah, Newcastle, reached 73 at one point, stretching for 50km along the coast of New South Wales and costing the industry (and ultimately the consumer) an extra AU\$1bn (\$836m).

I have a personal theme song at the moment that goes something like this: *Fix your supply chains and you fix the company (and the Economy)*. But to undertake this properly, we have to start with a fact base, and this is where universities must take leadership. It is not good enough to leave the work to consultants because the results of their work are rarely widely disseminated into the wider domain for the good of industry and for the good of society at large.

It is vital that we step up the pace of university-based research into Asian supply chains because there is a virtuous circle involving 'research-teaching-business application' that we must embrace so that all stakeholders, including the business community, community at large, and government can benefit. I am aware of some research of this nature that is currently underway, both here and overseas³. Beyond this, there are plans to start a new and concerted effort to build the research effort in the supply chain area in this part of the world. Our future lifestyle may depend on it. ■

1. "Australia's research universities and their position in the world", and address to the Financial Review Higher Education Conference, 10 March, 2009, Sydney, by Michael Gallagher, Executive Director, The Group of Eight (Australian Universities), taken from End Note 6 on page 18

2. Thomas L. Friedman, *Hot, Flat and Crowded*, Allen Lane an imprint of Penguin Books, London, 2008

3. Buying preferences for 3PL services (UoW, ARC); Alignment in a European context (Janet Godsell, Cranfield School of management); Insulin supply chains in third world countries (Deborah Ellis doctoral research, MGSMS); etc.