Towards a formation of skilful worker or semi profession? The case of Japanese flexible specialisation in the automotive sector in Indonesa

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Background of study

- Formation of semi skilled worker or semi profession in the manufacturing sector.
- Local production network connected with global production network (J Henderson, P Dicken, M Hess, N Coe, HWC Yeung 2002).
- Japanese flexible specialisation as an answer to market's volatility (post-fordism).
- Indonesia: FDI from Japan, industrial cluster development.

Research question

- Does the implementation of Japanese flexible specialisation in the Indonesian automotive sector bring further specialisation and/or skills professionally?

Method

- A participatory, ethnographic, multilevel research. Scaling from macro (i.e. policy), meso (i.e. Industrial Cluster of Jababeka) to micro (i.e. organisational study) in Indonesia/
- 147 interviews (incl. 44 companies), FGD, ethnographic study in 3 organisations.
- Combining quantitative & quantitative methods.

Literature review

- Japanese variant of flexible mass production (Sable 1994)
  - The aim is to increase the variants of production
  - Product development is still centralised but development time is reduced through the use of computer aided design;
  - Workers are taught to operate the full range of new equipment so they can change jobs easily.
  - Workers have the knowledge and autonomy necessary to operate just-in-time delivery systems.

- Few keys areas of flexible specialisation;
  - Economic geography
    - “Specialised bureaucracies within the operating units are reintegrated into normative chains of command; the workers and contractors are treated not as programmable automata but as junior partners in production with some capacity to reshape the product of the production process; headquarters shrunk dramatically; the operating units come to resemble the autonomous small or medium sized firms; products must be designed rapidly so that they can be efficiently produced” (Sable 1994).

- Economic geography (continued)
  - Three defining features of flexible specialisation: “first; they produce a wide range of products for a highly differentiated markets and they constantly change these goods in response to changing tastes and in order to expand their markets, second; individual firms use flexible and widely applicable technologies general purpose machines rather than a large dedicated machine systems, third; flexibly specialised industries balance from competition and cooperation among firms (Storper 1994, see also Piore and Sable 1984).”

- Sociology of knowledge
  - Flexible specialisation brings the implementation of Japanese ways of managing production processes across different scales and cutting costs in organisational level.
  - Stock of knowledge is primarily tied with the person -> knowledge workers
  - Daniel Bell's (1999) work on post industrial society, Nico Stehr's (1986) work on knowledge society.
  - An inevitable processes; on the one hand you have industrialisation and flexible specialisation in place, on the other hand do they carry a possibility of forming an occupation for knowledge workers?

- Sociology of knowledge (continued):
- Looking from the standpoint of how knowledge is handled in organisations, Etzioni (1964; 1969; 1975) differentiates between professional and semi-professional organisations.
- On the one hand there is professional organisation, which is characterised by high numbers of professionals, the goals, and the authority relations between professionals and non-professionals (Etzioni 1964; Etzioni 1969). The authority of relations is structured to enable professionals to have a superior authority on top of the organisation's major goal-related activities. In full-fledged professional organisations, the administrators are in charge of secondary activities (Etzioni, 1964: 81)
- On the other hand, there are semi-professional organisations as outlined by Etzioni that have the following character (1969, 1964: 77-78): semi-professional authority whereby the training is shorter, pertaining to values other than that of life or privacy. In addition, the focus is more on the communication of knowledge than the creation of knowledge. Furthermore, in contrast to professional organisations, the professional work has less autonomy. Lastly, semi-professionals are more likely to have skills pertaining to administration. Some examples of semi-professional organisations are nursing services of hospitals or primary schools.

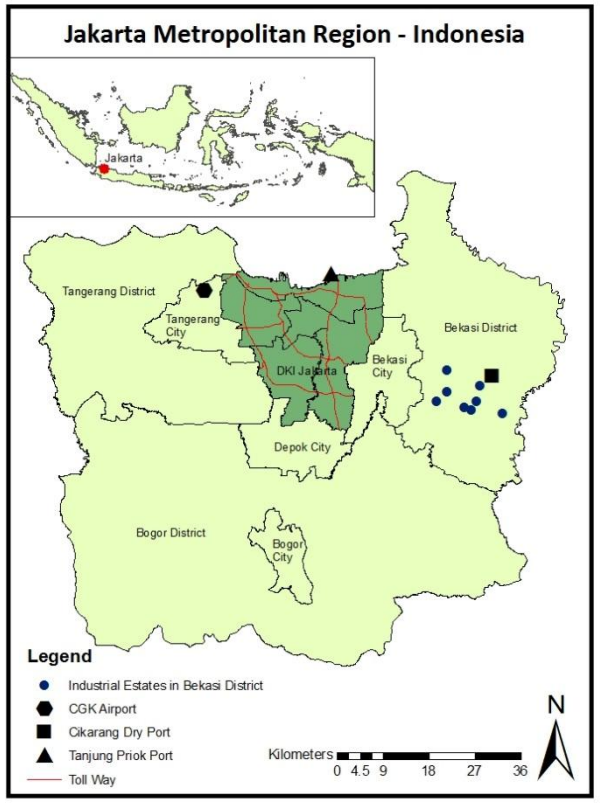
- Sociology of knowledge (continued):
- How does a semi profession shift into a profession?
  - Steps identified by Wilensky as cited by William J Goode (1969: 274-275): “full time activity at the task, establishment of university training, national professional association, redefinition of the core task so as to give the ‘ dirty work’ to subordinates, conflict between the old timers and the new men who seek to upgrade the job, competition between the new occupation and neighbouring ones, political agitation in order to gain legal protection, code of ethics”

- Thus, to problematize the issue; how does flexible specialisation as a production process and practice nurture knowledge workers?

Indonesia

- Highlights of Jakarta & Industrial Clusters in Java:
  - Majority of the industrial clusters (Irawati 2012) and knowledge producing organisations i.e. academia in Indonesia are located in Java.
  - Challenges of knowledge hub in Indonesia (Menkhoff, Evers et al. 2011).
  - Increased FDI in Indonesia's manufacturing sector 2006-2011 (Manning and Purnagunawan 2011) and in the region of West Java & Banten in Indonesia (BKPM 2011).

Map of Indonesia and Research Location



Profession building in Indonesia

- Indonesia has been treating vocational education on par with higher education. Both have been managed by the Ministry of National Education in Indonesia.
- The science system in Indonesia in the earlier days witnessed a ‘knowledge loss’ because it has to deal with first; the differences of languages (from Dutch language to Indonesian language), second, the duality of system due to colonial legacy (Purwaningrum 2014).
- The science system has been largely centralised with thematic research decided by the Ministry of National Education and Ministry of Research and technology (Purwaningrum 2014).
- Research does show that at the local level, the polytechnics that have been operating have a different system to that modelled by the ministry. Astra Manufacturing Polytechnic for example is renowned with its linkage with Honda Motor.

Profession building in Indonesia

- The Manufacturing Industry Development Centre (MIDEC) organisation was established by the MoI to upgrade the manufacturing industry's industrial capacity in Indonesia (Atmawinata, Irianto et al. 2008), working on three main aspects: basic study, training and technical assistance.
- The Indonesian Mould and Dies Association (IMDIA) plays a more pivotal role rather than MIDEC that facilitates the automotive sector knowledge transfer. IMDIA receives the support from the Japanese experts in mould and dies (Interview, Cikarang, 29.10.2010). This shows that whilst the automotive policy supports knowledge transfer from major automakers, the knowledge base itself reflects the continuous support (and interest) from Japan.

Honda

- Honda company principle is: “Maintaining a global viewpoint, we are dedicated to supplying products of the highest quality, yet at a reasonable price for worldwide customer satisfaction” (Honda 2012). What implication does this have for capacity building provided to the suppliers in Indonesia?
  - Capacity building is tied with the procurement/purchasing division.

- Honda suppliers are grouped according to sector-specific technology. For example, stamping-based companies will be grouped with other similar companies (Sako 2004), and this is also the case in Indonesia. In Honda the suppliers are differentiated based on the product namely; welding, standard component, machining, electric. Besides this, it also makes five differentiations on the basis of the competence in engineering: casting, machining, press, painting and assembling (Interview, Cikarang, 25.01.2011).

- Honda also carries out training for the new projects or new products for the supplier. An improvement assessment system is applied, enabling knowledge to be exchanged both ways from Honda and its suppliers (Interview, Cikarang, 06.12.2010). The capacity building from Honda is closely related with new projects, such as new motorcycles to be launched.

- DCCI – supplier of Honda: knowledge for the workers is in the quality system. Production practices and tools such as Kanban, delivery and assembling are learnt from Honda. Yet, the group company manages the a Triputra Executive Kaizen System, as a group effort to provide capacity building for other units as well.
- CHN – supplier of Honda: training provided by group company and in house training. Experience is key for moving up the ladder in the organisation. Honda does provide a facilitation for new model training and through group technical meeting.
- Both cases show that most of the training is in house or provided by group company. Knowledge from automaker remains fragmented to the process whereby such knowledge is needed for production process.

- Thus, I argue that the process of Japanese flexible specialisation brings more toward skilful worker rather than semi-profession. Trainings for semi profession are tied with the product supply chain association such as Toyota supplier association or IMDIA.

Ways ahead?

- Certification of profession.
- Mix and match – bringing polytechnic in the process.
- Language is key.