

關係經濟地理學

National Taiwan Normal University

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一、關係經濟地理學

● Network Economy

Network economy refers to economic activities which are based on personal and inter-firm relationships through information exchange and resource sharing to seek reciprocal benefits

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- Personal relationships, initiating the network economy, are established on the basis of trustworthy friendships and mutual identities, which can be widely found in the Taiwanese (or Chinese style) business culture.
- These identities can be formed in terms of relatives, classmates, alumni, co-workers, neighbours, and friends.
- Personal friendships are very important in the practical economic activities carried out in Taiwan.

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- inter-firm friendships is based on the expansion of personal relationships, and the need for firms to seek competitiveness through reciprocal benefits at both the local and global levels.
- information exchange is identified through both formal and informal contacts between managers and scientists to promote scientific knowledge exchange amongst firms for the informing of capital, markets, management, technology, investment and the skilled workforce to enhance reciprocal benefits.

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🔴 Network Economy

“...we make inter-firm relationships as an ‘**internetworking protocol**’, using a simple protocol that can lead firms to work together, but in each firm’s own way. When each firm connects, they can turn out a vigorous internetworking operation system, which is powerful. Hence, a firm has to operate in its own way and follow a simple protocol that can form quite a huge strength. This is a big change in organisational operations. ... Our company is now planning and developing such a simple protocol...”

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● Network Economy

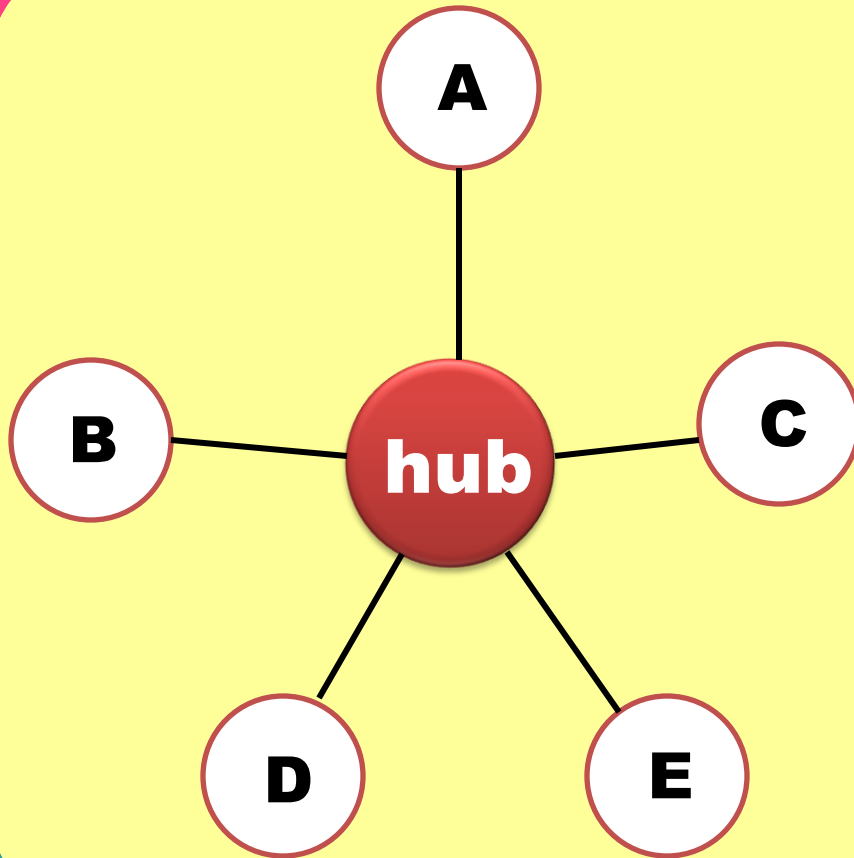
- Network economy is shaped by economic activities between firms: via (1) joint ventures, cross-investment, technology transfers/ exchanges, and strategic alliances; and (2) spin-offs, subsidiaries, mergers, take-overs, cross-licensing, R&D authorisation, and trade supplier/client links.
- These relationships can be categorised into two levels; the local area networks (LANs) and wide area networks (WAN).

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🔴 LAN&WAN

- A local area network (LAN) is a short-distance computer network used to link a group of computers together **within a small geographical area.**
- A wide-area network (WAN) is made up of interconnected smaller local networks spread **throughout a building, a state, or the entire globe.**

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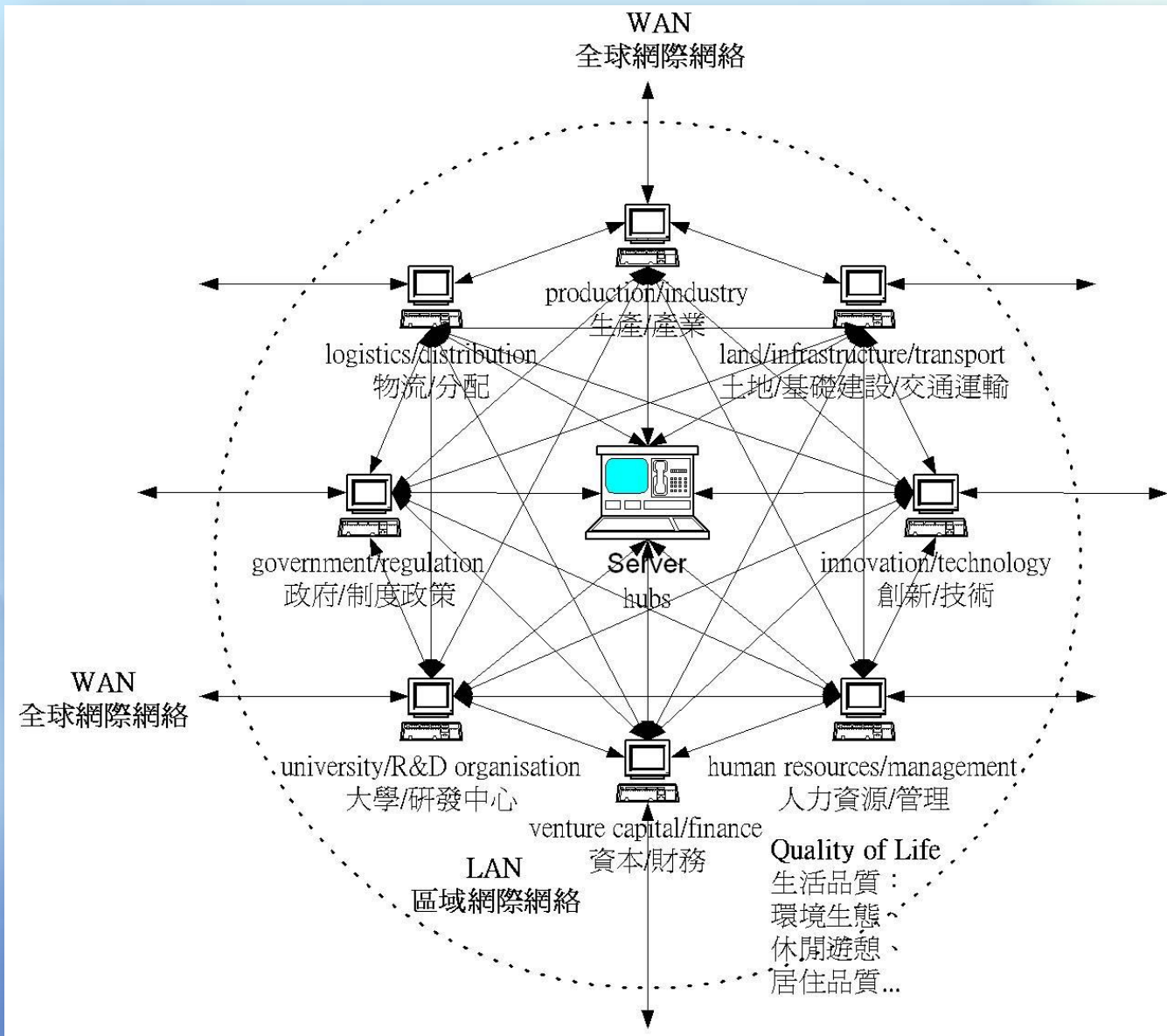


$$C_5^2 = 0.016667$$

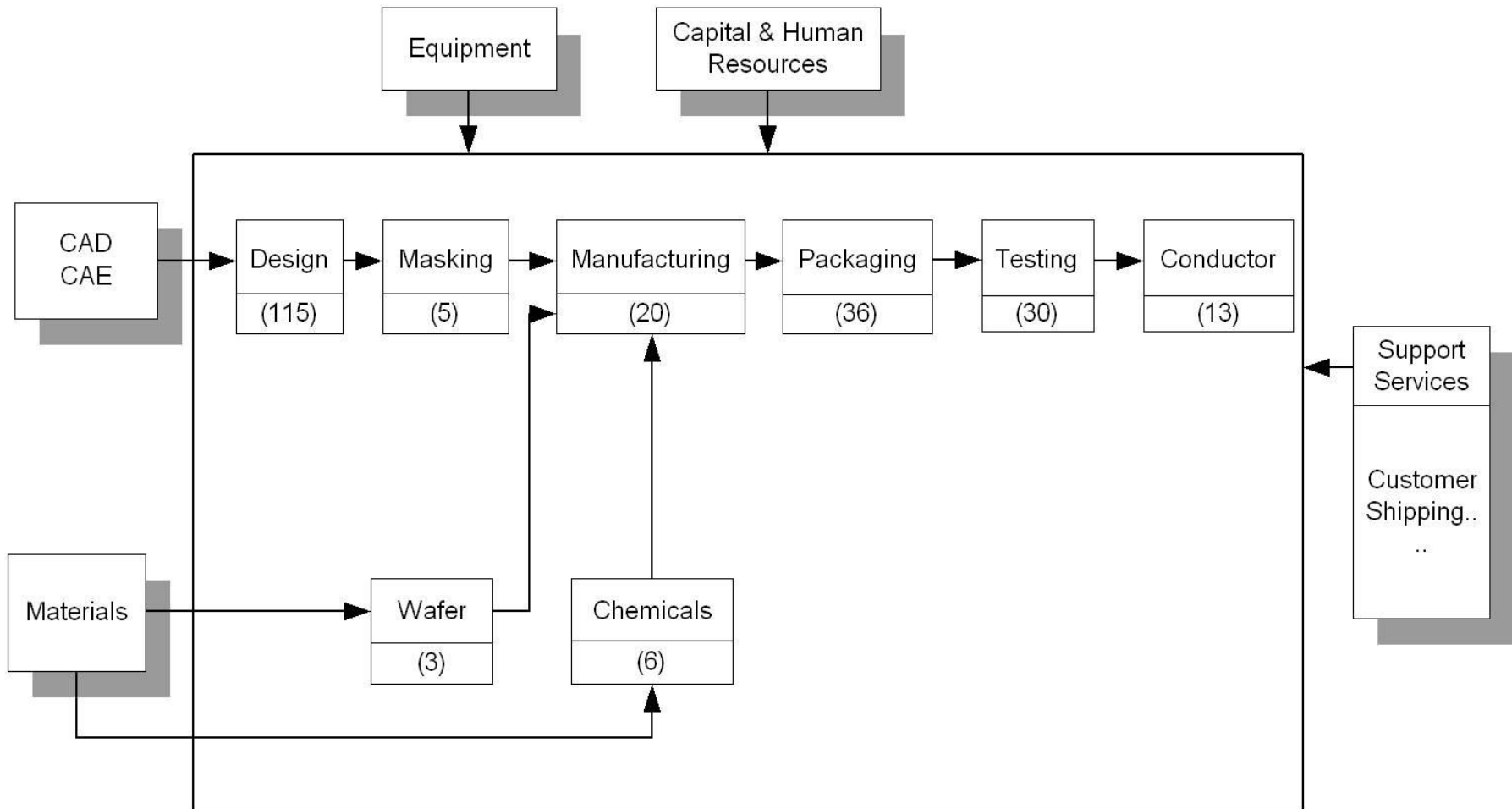


$$C_2^1 = 0.5$$

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The number in brackets is the number of firms established in Taiwan

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Network Economy & How Network Economy work

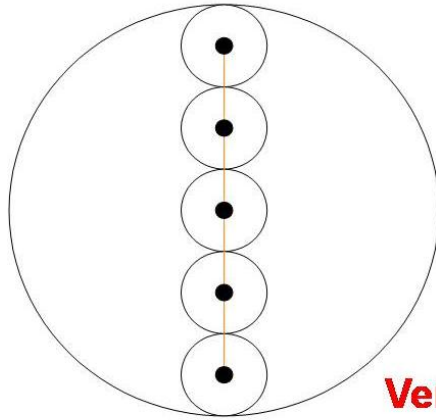
- Beyond the Agglomeration Economy
- Beyond the Vertical Disintegration
- 'Network economy' is based on the typical Taiwanese methods of developing personal relationship, and then extending to the business territory of developing high tech, which is widely embedded within the HSIP.
- LAN & WAN
- Two of supporting mechanisms
- Local Area Network, LAN
- Wide Area Network, WAN

Critique:

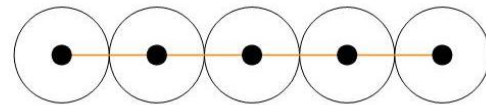
Past studies enjoy a privileged position within global networks.
However, institutional lock-in effects, path-dependencies

Hudson (1999; 2004); Amin (2000) : ability of places to anticipate and respond to changing external circumstances.

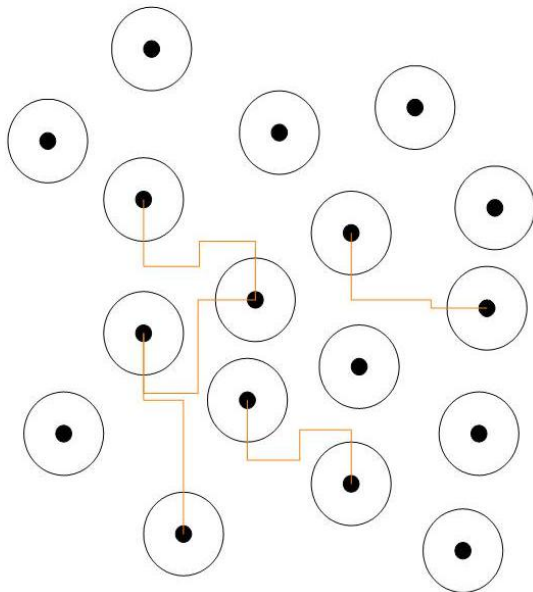
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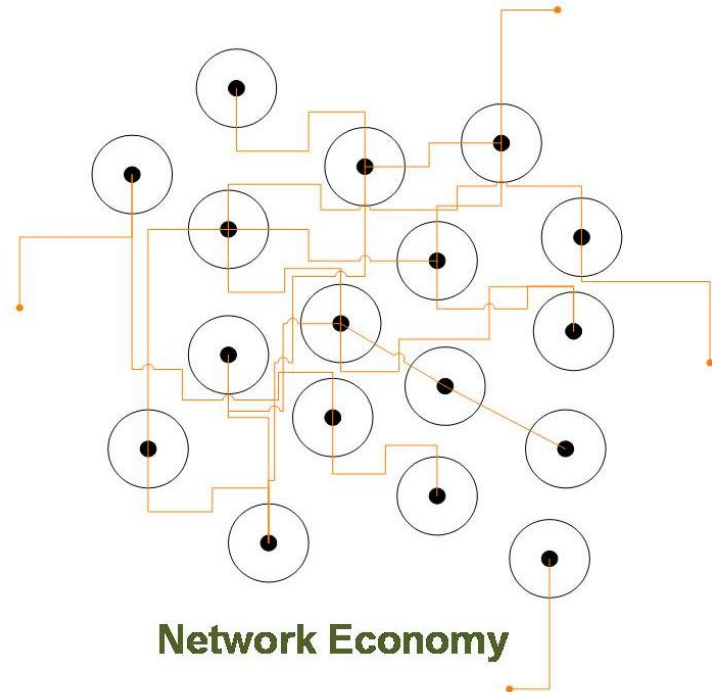
Vertical Integration



Horizontal Integration



Agglomeration Economy



Network Economy

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- The Inter-networks
- 'Network economy' operates the inter-networks which are supported by the operation of the local area and wide area networks.
- Local Area Networks (LAN)
- Wide Area Networks (WAN)

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● LAN, LOCAL AREA NETWORK

Table 1 | Examples of Local Area Networks of Cooperating HSIP Firms.

Name of Firm.		Industry	Year founded.	Chairman of Firm.	President of Firm.
I. UMC Group.					
1.	United Microelectronics Corp.	IC.	1981.	Robert Tsao.	John Hsuan.
2.	United Semiconductor Corp.	IC.	1995.	Robert Tsao.	C.D. Chang.
3.	United Integrated Circuits Corp.	IC.	1996.	Robert Tsao.	J.Z. Hsu.
4.	United Silicon Inc.	IC.	1996.	Robert Tsao.	C.C. Wen.
5.	UTEK Semiconductor Corp.	IC.	1988.	Robert Tsao.	L. Chen.
6.	Integrated Technology Express Inc.	IC.	1996.	John Hsuan.	W.C. Chen.
7.	Umipac Optoelectronics Corp.	OptE.	1990.	Robert Tsao.	C.J. Duan.
8.	Cnet Technology Inc.	C&P.	1989.	C.J. Chang.	Simon Chang.
9.	Faraday Technology Corp.	IC.	1993.	M.C. Tsai.	C.P. Lin.
10.	Novatek Microelectronics Corp.	IC.	1997.	John Hsuan.	T.S. He.
11.	Mediatek Inc.	IC.	1997.	M.C. Tsai.	J.J. Cho.
12.	Amic Technology Inc.	IC.	1997.	M.C. Tsai.	K.L. Chen.
13.	Siliconware Corp.	IC.	1993.	C.L. Lin.	Bough Lin.
14.	Integrated Silicon Solution (Taiwan).	IC.	1990.	Jimmy Lee.	K.Y. Han.
15.	Trident Technologies, Inc.	IC.	1997.	Frank Lin.	J. H. Chang.

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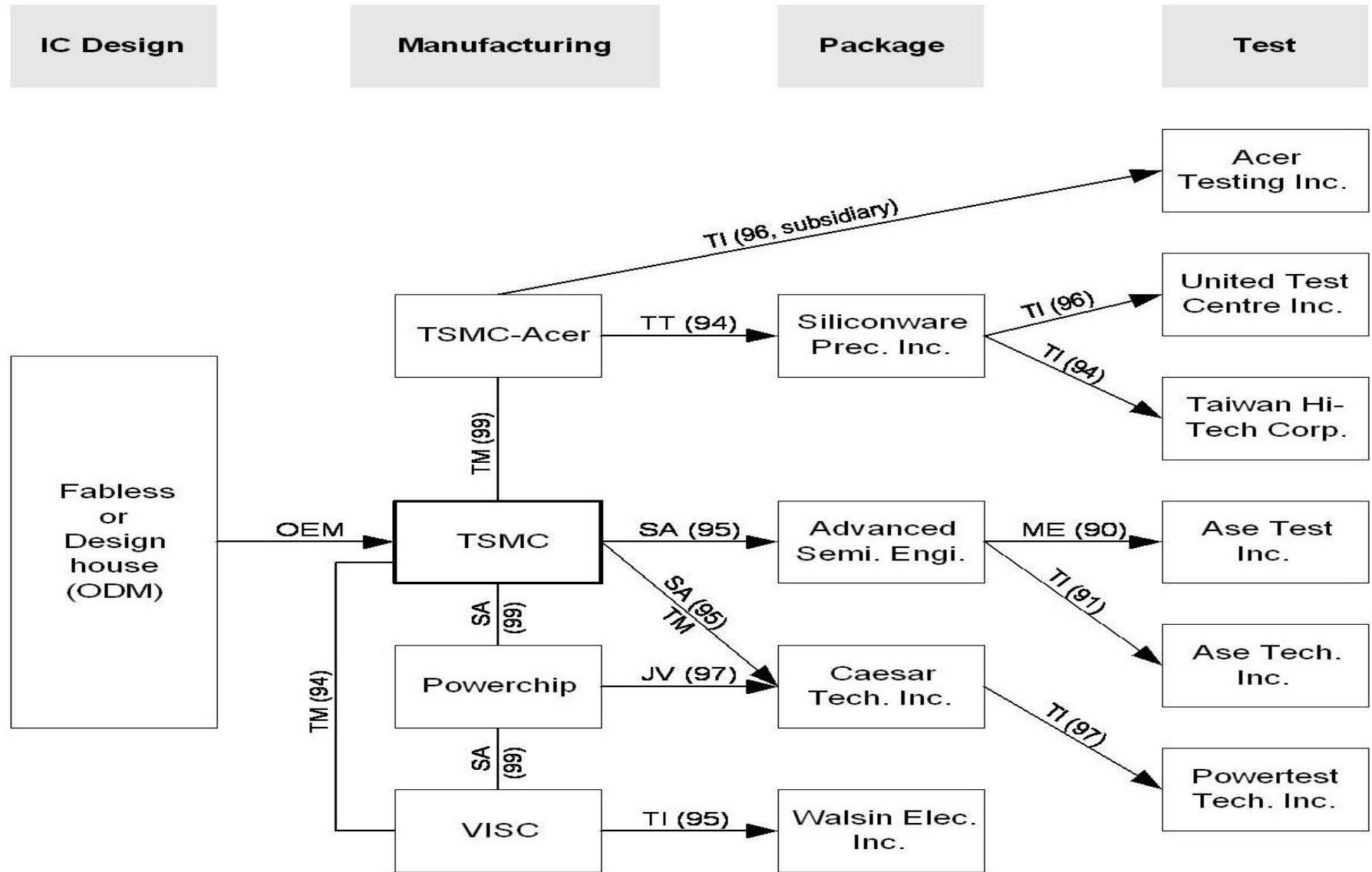
II. TSMC-Acer-Powerchip Group

1.	Taiwan Semiconductor Manufacturing Corp.	IC	1987	Morris Chang	Morris Chang
2.	Vanguard International Semiconductor Corp.	IC	1994	Morris Chang	F.C. Tseng
3.	Wlyse Technology Taiwan Ltd.	C&P	1982	Morris Chang	Z.C. Lin
4.	Taiwan Mask Corp.	IC	1988	Andrew Wang	Parkson Chen
5.	Shin-Etsu Optoelectronics Co., Ltd.	OptE	1995	Shirasu Soichi	Richard Kuo
6.	Shin-Etsu Handotai Taiwan Co., Ltd.	IC	1995	Yasushi Kitamura	Taro Hosono Shiomi Hara Richard Kuo
7.	TSMC-Acer Semiconductor Manufacturing Corp.	IC	1990	F.C. Tseng (since 1999)	C.B. Chen (since 1999)
8.	Acer Incorporated	C&P	1981	Stan Shih	Simon Lin
9.	Ambit Micro-Systems Corp.	IC	1991	Fred Lin	K.L. Lee
10.	Acer Laboratories Inc.	IC	1993	Fred Lin	C.J. Wu
11.	Acer Sertek Inc. HSIP branch	C&P	1995	C.T. Chen	C.T. Wang
12.	Acer Netbus Inc.	Telecom	1996	Simon Lin	Lance Wu
13.	Acer Display Technology Inc.	OptE	1996	K.Y. Lee	H.B. Chen
14.	Powerchip Semiconductor Corp.	IC	1994	Frank Huang	Frank Huang
15.	Umax Data Systems Inc.	C&P	1988	Frank Huang	C.Y. Hsu
16.	E-Tech Inc.	C&P	1987	Frank Huang	C.C. Tseng
17.	Elite Group Computer System Co. Ltd.	C&P	1996	Frank Huang	James Hsu
18.	Silicon Touch Technology Inc.	IC	1996	Frank Huang	C.Y. Jin
19.	Newssoft Technology Corp. HSIP Branch	C&P	1997	Frank Huang	Andrew Wang
20.	Aerovision Avionics, Inc.	Avionics	1998	Frank Huang	
21.	Phoenix Precision Technology Corp.	IC	1997	M.C. Hsu	Jim Chuang
22.	Phoenix Silicon International Corp.	IC	1997	Sam Chen	Mike Yang
23.	Etron Technology Inc.	IC	1991	Nicky Lu	Nicky Lu

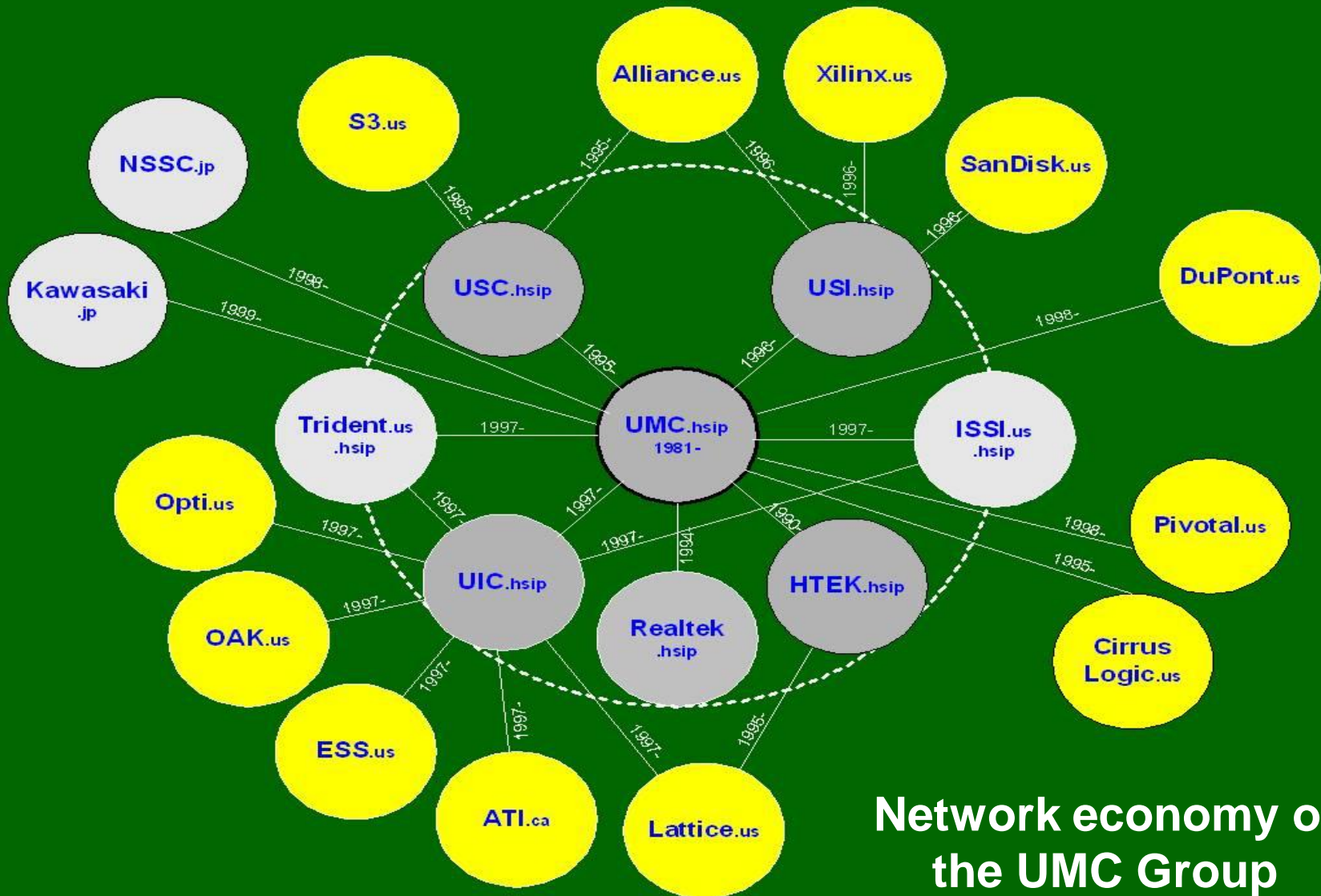
III. Macronix Group

1.	Macronix International Co., Ltd.	IC	1989	D.H. Hu	Miin Wu
2.	Zyxel Communications Corp.	Telecom	1989	D.H. Hu	S.I. Zhu
3.	Caesar Technology Inc.	IC	1993	D.H. Hu	C.L. Liu
4.	Avid Electronics Corp.	IC	1996	D.H. Hu	C.T. Chen
5.	Applied Vacuum Coating Technologies	OptE	1997	D.H. Hu	C.C. Zhu

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Intellectual network Leapfrogging tactics

