Table of Contents

ISBN: 0-9753393-4-6

Internet and Information Technology in Modern Organizations: Challenges & Answers

Proceedings of
The 5th International Business Information Management Association Conference

December 13 - 15, 2005
Cairo, Egypt

Editor

Khalid S. Soliman

International Business Information Management Association (IBIMA)

Conference Chair

Khalid S. Soliman
Hofstra University, USA

Program Chair

Sherif Kamel
American University in Cairo, Egypt

Imed Boughzala
GET / Institut National des Télécommunications, France

French Track Chair

Imed Boughzala
GET/Institut National des Télécommunications, France

Spanish Track Chair

Christiane E. Metzner
Universidad Central de Venezuela, Venezuela

Theory and Practice of Software Engineering (TPSE) Track Chair

Magdy Serour
University of Technology Sydney, Australia

TPSE Track Programme Co-Chairs

Brian Henderson-Sellers
University of Technology Sydney, Australia

Cesar Gonzalez-Perez
University of Technology Sydney, Australia

Conference Advisory Committee

John F. Affisco, Hofstra University, USA
Mel Damodaran, University of Houston-Victoria, USA
Reggie Davidrajuh, Stavanger University College, Norway
Zahir Irani, Brunel University, UK
Markus Mau, University of Giessen, Germany
Nicole Mau, University of Giessen, Germany

Mohammad Eyadat, California State University, USA
Krassie Petrova, Auckland University of Technology, New Zealand
Marcus Rothenberger, University of Nevada-Las Vegas, USA
Najib Saylani, Hofstra University, USA
Mark Srite, University of Wisconsin – Milwaukee, USA

Program Committee

Anastase Adonis, Objective Networks, France
Vasilis Aggelis, Piraeus Bank, Greece
Mahmoud Arayssi, American University in Beirut, Lebanon
Muhammad Fareed Arif, University of Central Punjab, Pakistan
Nabil Arman, Palestine Polytechnic University, Palestine
Muhammad Hasmi Abu Hassan Asaari, Universiti Sains Malaysia, Malaysia
Saïd Assar, I.N.T Evry, France
Riem M. Hamdi Abdel Azim, German University in Cairo, Egypt
Imad Baalbaki, American University in Beirut, Lebanon
Ali Al-Badi, Sultan Qaboos University, Oman
Abdul Hafeez-Baig, University of Southern Queensland, Australia
Subhajit Basu, Queen's University Belfast, Ireland
Jean-Paul Van Belle, University of cape Town, South Africa
Rob Bernard, Higher Colleges of Technology, UAE
John Byrne, RMIT Business, Australia
Silvia Elaluf-Calderwood, London School of Economics, UK
Enrique V. Carrera, University San Francisco of Quito, Ecuador
Rommert J. Casimir, Tilburg University, The Netherlands
Jan Mendonca Correa, Professor at University Of Brasilia, Brazil
Lourdes Canos Daros, Universidad Politecnica de Valencia, Spain
Soumaya Ben Dhaou, Paris IX Dauphine University, France
Patrick Doran, Zayed University, UAE
Jean-Louis Ermine, Institut National des Télécommunications, France
Susana de Juana Espinosa, Universidad de Alicante, Spain
Uchenna Eze, Nanyang Technological University, Singapore
Xiuzhen Feng, University of Twente, Netherland
Eulalio G. Campelo Filho, University Karlsruhe, Germany
José Luis Fuertes, Universidad Politécnica de Madrid, Spain
Norjihan Abdul Ghani, University of Malaya, Malaysia
Song Han, Curtin University of Technology, Australia
Ramzi A. Haraty, Lebanese American University, Lebanon
Suraya Hamid, University of Malaya, Malaysia
Markus Helfert, Dublin City University, Ireland
Pilar Herrero, Universidad Politécnica de Madrid, Spain
Mohammed Al-Jadeed, University of Edinburgh, UK
Lobna Jeribi, ENSI University, Tunisia
Anand Jeyaraj, University of Missouri - St.Louis, USA
Kevin Johnston, University of Cape Town, South Africa
Nazean Jomhari, University of Malaya, Malaysia
Noorliza Karia, Universiti Sains Malaysia, Malaysia
Mohammad Ayub Khan, Tec de Monterrey, Mexico
Rami Khasawneh, Lewis University, USA
Matthew Nicolas Kreeger, University of St. Andrews,UK
Supakorn Kungpisdan, Monash University, Australia
Zaigham Mahmood, University of Derby, UK

Virginie Sans, l'université de Cergy-Pontoise, France
K. P. Lam, University of Keele, UK
Zokir Nazarov, Cardiff University, UK
Ikram Amous, Universite de Sfax, Tunisia
Krassie Petrova, Auckland University of Technology, New Zealand
Hasan A. Abbas, Kuwait University, Kuwait
Sue Foster, Monash University, Australia
Fahim Akhter, Zayed University, UAE
Paulus Insap Santosa, Republic Polytechnic, Singapore
Khamis Omar, Princess Sumaya University for Technology, Jordan
Tahir Naeem, COMSATS Institute of Information Technology, Pakistan
Kathy J. Liszka, University of Akron, USA
Nixon Muganda, University of Cape Town, South Africa
Marite Kirikova, Rīgas Tehniskā universitāte, Latvia
Samir Garbaya, Robotics Laboratory of Versailles, France
Dr Lawrence Green, University of Manchester, UK
Khalid Khawaja, American University in Dubai, UAE
Dr. Gregor Zellner, Universität Regensburg, Germany
Katja Harej, University of Maribor, Slovenia
Saad Harous, College of Arts & Sciences, UAE
Mohamed Salah Hamdi, University of Qatar, Qatar
Mohamad Fauzan Noordin, International Islamic University Malaysia, Malaysia
Nihat Kasap, Sabanci University, Turkey
Yahya H Alzoubi, Philadelphia University, Jordan
Reggie Davidrajuh, University of Stavanger, Norway
Vili Podgorelec, University of Maribor, Slovenia
Anthony Rhodes, Zayed University, UAE
Shu Zhou, The University of New Mexico, USA
Fotis Liarokapis, City University, UK
Noor Raihan Ab Hamid, Multimedia University, Malaysia
Jaiprakash T. Lallchandani, D. D. University, India
Marjan Druzovec, University of Maribor, Slovenia
Gianmarco Radice, University of Glasgow, UK
Euripidis N. Loukis, University of the Aegean, Greece
Lejla Vrazalic, University of Wollongong in Dubai, UAE
Ahmad Kayed, Applied Science University, Jordan
John Debenham, University of Technology-Sydney, Australia
Emad Bataineh, Zayed University, UAE
Yousef Shahwan, United Arab Emirates University, UAE
Richard Chbeir, Université de Bourgogne, France
Robert H Barbour, Unitec, New Zealand
Halim M. Khelala, University of Wollongong in Dubai, UAE
Chew Esyin, University Malaya, Malaysia
Tran Khanh Dang, HoChiMinh City University of Technology, Vietnam
Greg Skulmoski, Zayed University, UAE
Albert H S Scott, Vocational Training Council, Hong Kong
Markos Kyritsis, Brunel University, UK
Amin Yousef Noaman, King Abdulaziz University, KSA
Salaheldin Ismail Salaheldin, Qatar University, Qatar
Sonali S. Morar, Brunel University, UK
Jae-Suk Yun, Korea Information Security Agency, Korea
Ahmad Khasawneh, University of Newcastle, Australia
Hossein S. Zadeh, RMIT, Australia

Mulhim Al-Doori, American University in Dubai, UAE
George Giannatos, Monash University, Australia
Gordana Jovanovic Dolecek, Institute INAOE, Mexico
Haitham Hmoud Alshibly, The University of Newcastle, Australia
Ahmed Guessoum, Univ. of Sharjah, UAE
Ammar Ahmed, CSIRO Manufacturing and Infrastructure Technology, Australia
Rinette Roets, University of Fort Hare, South Africa
Shamshul Bahri, University of Malaya, Malaysia
Abdollah Aghaie, K N Toosi University of Technology, Iran
Fayez Ahmad Albadri, MGSM Macquarie Graduate School of Management, Australia
Teuta Cata, Northern Kentucky University, USA
Ari M. Wahlstedt, University of Jyväskylä, Finland
Jorge Molea, Universidad Central de Venezuela, Venezuela
Hong Lin, University of Houston-Downtown, USA
Roman Povalej, Universität Karlsruhe, Germany
Dave Henderson, Virginia Polytechnic Institute & State University, USA
Bala Srinivasan, Monash University, Australia
Khalid Benbachir, Canada
Jaime Ramirez, Universidad Politécnica de Madrid, Spain
Knolmayer Gerhard, Universität Bern, Switzerland
karim Bourouni, Ecole Nationale d'Ingénieurs de Tunis, Tunisia
Ahmed El-Ragal, Arab Academy for Science and Technology, Egypt
Hanene Trichili, Ecole Nationale Supérieure des Télécommunications de Bretagne, France
Omar El-Gayar, Dakota State University, USA
Doha Abelkhaleq, ESKADENIA, Jordan
Tyng-Yeu Liang, National Kaohsiung University of Applied Sciences, Taiwan
Sylwester Kozak, National Bank of Poland, Poland
Stefan Eicker, Universität Duisburg-Essen, Germany
Najib Saylani, Hofstra University, USA
Pankaj Kamthan, Concordia University, Canada
Adel Al-Alawi, University of Bahrain, Bahrian
Markus Bick, ESCP-EAP European School of Management, Germany
Asad I. Khan, Monash University, Australia
Susan Koruth, CGI-Australia, Australia
Mirja Pulkkinen, University of Jyväskylä, Finland
Ra'ed Moh'd Masa'deh, Nottingham University, UK
Ahmed Subaih, University of Sheffield, UK
Berta Batista, Instituto Politécnico do Porto, Portugal
Hajo Reijers, Eindhoven Unversity of Technology, Netherlands
Christine Verdier, Université Lumière Lyon 2, France
Akram Al-Rawi, Zayed University, UAE
Massimo De Santo, Università di Salerno, Italy
João Rocha, Instituto Politécnico do Porto, Portugal
Honglei Li Violah, The Chinese University of Hong Kong, Hong Kong
Alexei Tretiakov, Massey University, New Zealand
Nicolas Larrieu, KAIST University, Korea
Tania Pavlou, City University London, UK
Iryna Skrypnyk, University of Jyvaskyla, Finland
Azzedine Lansari, Zayed University, UAE
Jacek Plodzien, Polish Academy of Sciences, Poland
Ari P. Hirvonen, TietoEnator, Finland

Djamel Khadraoui, CRP Henri Tudor, Luxembourg
Chiou-Pirng (Ping) Wang, Albany State University, USA
Laurel Evelyn Dyson, University of Technology-Sydney, Australia
Rui (Ray) Chen, State University of New York at Buffalo, USA
Abdelaziz Khadraoui, University of Geneva, Switzerland
M.F. Lau, Swinburne University of Technology, Australia
David A. Bray, Emory University, USA
Snene Mehdi, University of Geneva, Switzerland
Roland Kaschek, Massey University, New Zealand
Khalil A. Abuosba, The Arab Academy for Banking and Financial Sciences, Jordan
Vanessa Chang, Curtin University of Technology, Australia
Damir Kalpic, University of Zagreb, Croatia
Dhayalan Velauthapillai, University College of Bergen, Norway
Mahbubur Rahman Syed, Minnesota State University, USA
Kevin K. W. HO, The Hong Kong University of Science and Technology, Hong Kong
Deb Sledgianowski, Hofstra University, USA
Az-Eddine Bennani, Reims Management School, France
Settapong Malisuwan, Chulachomklao Royal Military Academy, Thailand
Gerald C. Gonsalves, College of Charleston, USA
Henry B. Wolfe, University of Otago, New Zealand
Sam Lubbe, University of KwaZulu-Natal, Durban, South Africa
Nabil Mzoughi, ISG of Sousse, Tunisia
José Diego De la Cruz, L'Ecole Polytechnique Fédérale de Lausanne, Switzerland
Upasana G Singh, University of KwaZulu-Natal, South Africa
Judith Pavón Mendoza, Universidade de São Paulo, Brazil
Wojciech R., The Poznan University of Economics, Poland
Naveed Ahmed Khan, COMSATS Institute of Information Technology, Pakistan
Yahya Slimani, University of Tunis El Manar, Tunisia
Vass Karpathiou, RMIT University, Australia
Isabelle Comyn-Wattiau, ESSEC, France
Xin Lucie Li, The University of North Carolina at Pembroke, USA
Anastase Adonis, Objective Networks, France
Damminda Alahakoon, Monash University, Australia
Regina Connolly, Dublin City University, Ireland
Scott Rathbone, CGI, Australia
Shushma Patel, London South Bank University, UK
Alcina Prata, Instituto Politécnico de Setúbal, Portugal
Emmanuel Matthew, University of Wollongong, Australia
Ann Johansson, University of Trollhättan/Uddevalla, Sweden
Loay Sehwail, Oklahoma State University, USA
Inas E. Ezz, Sadat Academy for Mgt Sc., Egypt and Brunel University, UK
Indrawati Nataatmadja, University of Technology-Sydney, Australia
Sagarmay Deb, University of Ballarat, Australia
Ela Klecun, London School of Economics, UK
Wenshin Chen, Prairie View A&M University, USA

TPSE Track Programme Committee

Table of Contents

Supply Chain Management

E-Government

Business Process Reengineering

Knowledge Management

Enterprise Integeration

IT Outsourcing

SME

Database and Data Management

E-banking & Finanical Industry

M-Commerce

Computer Networks and Remote Access

E-Business

Software Development

Artificial Intelligence

Information Systems in Healthcare Industry

Corporate Performance Management

Information Systems Service & Quality Management

ERP

CRM

Outsourcing

Data Mining

Internet / WWW

Information Systems Security

Learning Organization

Data Warehousing

E-Learning

Trust and Privacy Issues

Information Systems Research

IS Strategic Planning

Special Tracks

Theory and Practice of Software Engineering (TPSE) Track

Information Systems Research in French Track

Information Systems Research in Spanish Track

Tutorials

End of Table

The Effect of Information Sharing on Empowerment in Indonesia

Aji Hermawan
Lecturer, Department of Agro-industrial Technology, Bogor Agricultural University, Indonesia
and Doctoral Researcher, Manchester Business School, United Kingdom. E-mail: ajiher@ipb.ac.id

Abstract

This study examines the differences in information sharing and psychological empowerment in organisations, as well as the relationship of both. Using multiple case study research in four manufacturing companies in Indonesia, this study found that the levels and the relationships are different across the companies studied. The differences are explained by the extensiveness use of empowering initiatives and the contextual factors surrounding the companies. The limitations of the universal measures of information and empowerment are also discussed..

1. Introduction

This paper is a part of a wider study about empowerment theory and practices in Indonesia. Empowerment has been extensively studied and it might be the most popular term used across disciplines in the 1990s. This paper focuses on the relationship between information sharing – which is regarded as a part of structural empowerment - and psychological empowerment.

The relationship between information sharing and empowerment is well supported in management literature. To empower organisations it is believed that more information should be available to more people at more levels through more devices. Such information might include data about workflow, productivity, external environment, competition, and firm strategy. According to Bowen and Lawler (1992), there are two specific pieces of information, which are critical to empowerment: (1) information about organisation's mission and (2) information about performance of a work unit Spreitzer (1995, 1996) shows that access to information is significantly related to empowerment. Individuals who perceive that they have a high degree of access to information report a higher level of empowerment than those who perceive they have less access to information.

Additionally, the effects of empowerment on organisational performance are widely recognised. Empowerment is believed as mediator for performance by many writers such as Spreitzer (1995), Spreitzer et al (1997), Spreitzer et al (1999), Fuller et al (1999), Koberg et al (1999), and Kraimer et al (1999).

This paper aims to examine (1) the variations of information sharing and psychological empowerment, and (2) the effect of information sharing on psychological empowerment in four manufacturing companies in Indonesia.

2. Methods

This study used multiple case study research. There were four cases selected from the manufacturing sector in Indonesia. As a case study research, the cases were not selected on the basis of statistical sampling, but it used the principle of maximum variation by including companies from different industrial sectors and different technologies. The four companies were Food-Co, Stel-Co, Chem-Co, and Wood-Co (the names are disguised).

A combination of data collection methods was used in this study. This combination or triangulation was expected to be highly synergistic (Yin, 1994). The multiple data collection methods were used including: (1) interviews and (2) questionnaires.

Mainly semi-structured interview was used because it would make the interview move freely and more conversational but the focus on predetermined questions were able to be maintained. The questions were open-ended to allow respondents to say freely whatever they wanted to say. To achieve this, some interview guides were developed. All interviews were recorded and transcribed. The interviews were conducted with (a) senior managers and (d) employees. Senior manager expected to involve was senior human resource manager since he/she was the person responsible for the issues. The employees were asked about their perception of empowerment and information sharing. The interviews were conducted in order to yield more information than could be obtained from the questionnaire.

Questionnaires were used to obtain quantitative data on information sharing and psychological empowerment. The number of participating respondents depended on the number of employees occupying supervisory levels (below managerial levels) in the companies. There was no sampling taken since the questionnaire distributed to all employees at the levels. The questionnaire consists of questions about psychological empowerment and information sharing. The detail of each questionnaire is described below.

Information sharing. Information sharing is concerned with the amount and type of information that is shared with employees. The measure is also borrowed from Lawler et al (1995). Employees were asked about the information they receive consisting 8 (eight) types of information, that are the corporation's overall performance, the plant's overall performance, the department's performance, their own individual performance, the plant's business plans and goals, the corporation's business plans and goals, new technologies that affect them, and the competitors' relative performance. The typical questions, for example, are 'I receive information about the corporation's overall results', 'I receive information about the plant's overall performance', etc. Employees were asked to place a checkmark to the statements they believe true in the company. In the analysis, the information sharing is calculated by

averaging the number of the types of information the employees receive.

Psychological empowerment. To measure this aspect, Spreitzer's questionnaire, which has been widely used in measuring psychological empowerment, was employed. Because it has been widely accepted, Spreitzer's construct has proved its validity and reliability in much research in the field of organisational behaviour. Even though there are many criticisms of this concept, there is a lack of alternative concepts that have been validated empirically. The more comprehensive measure is difficult to develop and it is realised by its critics such as Zimmerman (1995, 2000). The weaknesses of this construct for not including interpersonal and behavioural components can be handled by including the structural dimension of empowerment, which will be described later.

Spreitzer's questionnaire measures psychological empowerment including senses of meaning, competence, self-determination, and impact. The definitions of each component, as discussed in previous chapter, are as follows:

- Meaning is defined as the value of a work goal or purpose, judged in relation to an individual's own ideals and standards.
- Competence or self-efficacy is the self-belief that one possesses the skills and abilities necessary to perform a job or task well.
- Self-determination is an individual sense of having choice in initiating and regulating actions or a feeling of having control over one's own work.
- Impact is the belief that one has significant influence over strategic, administrative, or operational outcomes at work (Spreitzer, 1995).

Based on the definitions, Spreitzer's questionnaire composes 12 (twelve) questions in 7-point Likert scale.

The characteristic of the company, the number of questionnaire distributed, and the number of people interviewed can be seen in Table 1 below.

Table 1. Summary of the fieldwork

	Food-Co	Steel-Co	Chem-Co	Wood-Co
Product	Wheat Flour	Steel plate	PTA*)	Plywood
No. of employees	2,268	255	587	3,909
No. of middle managers in production dept.	107	26	52	119
Questionnaires distributed	107	26	52	119
Questionnaires received	69	26	40	108
Response rate	64%	100%	77%	91%
Senior managers interviewed	5	3	2	3
Operators interviewed (in group)	33	10	8	28

Analysis. The data was analysed using mean comparison and post hoc analysis to see the different among the cases. While the analysis within each case used correlation analysis. The qualitative data was used to enrich the finding and to give contextual sense to the quantitative analysis.

3. Results and Discussion

The discussion of the results will begin by analysing the difference in the levels of information sharing and psychological empowerment; and is then followed by discussing the relationship between information sharing and psychological empowerment.

The levels of information sharing across the companies are significantly different. Food-Co has the highest information sharing index among the cases (see Table 2). Statistically Food-Co is the highest and significantly different from Chem-Co and Wood-Co, while Steel-Co is in-between and indifferent from either Food-Co or Chem-Co and Wood-Co. Food-Co is clearly the highest since it employs various participation initiatives especially TQM. A great range of quality and productivity information is publicly given. The channels include quality circles, quality ceremony, and related activities. Steel-Co has a similar approach though not as extensive as Food-Co, but problems in implementing TQM inhibit the amount and the quality of information which may flow. The informal approach of the supervisors also contributes to the limited information sharing since informal communication tends to involve limited numbers of individuals. On the other hand, the strict control at Chem-Co and Wood-Co may explain the difference. While Wood-Co uses close supervision to control employees, Chem-Co adopts formal SOP controls. These types of control limit the flow of information in the companies since this is usually under tight control. The statement of the human resource manager at Chem-Co, that information is deliberately controlled in order to make employees undisturbed, is an obvious example that information flow is strictly controlled in the company.

Table 2. Comparison of empowerment and information index across the companies

Index	F	S	C	W	Avg	Sig
Empowerment	5.05	5.10	4.81	4.68	4.91	**
• Meaning	5.75	5.71	5.51	5.46	5.60	
• Competence	5.46	5.59	5.43	5.12	5.40	*
• Choice	4.15	4.28	4.03	3.73	4.05	*
• Impact	4.85	4.83	4.28	4.43	4.60	**

Information	0.63	0.56	0.50	0.51	0.55	*

Note: F=Food-Co, S=Steel-Co, C=Chem-Co, W=Wood-Co, Avg=Average

** the mean difference is significant at the .01 level (2-tailed).

* the mean difference is significant at the .05 level (2-tailed).

Even though there are differences in the information sharing index, we need to be alert to the use of the index. **First**, there is a common opinion across the cases that the type of information shared in the companies is generally generated for the management interest. The range of information listed, which is regarded as important information for empowerment, clearly serves the company's concern, not the workers'. The workers in almost every company studied complained that the information is given to make them work harder. The most common information received related to company problems (deviation of expected performance) and required the workers to improve the quality of their work. It seems that information was used selectively to enable managers to reduce negative divergences and exploit the positive divergences which individuals make. As Braverman (1974) says the prioritisation of information in the manager's role is the key to scientific management. Similarly Webster and Robins (1993) argue that information can be used to continue and extend the established control mechanisms. In similar vein, Marchington and Grugulis (2001) argue that information sharing is no more than a cascade of information from management to employees, which ignores the employee contribution. This one way information flow rather than being seen as empowering could more easily be interpreted instead as indoctrinating, emasculating, and controlling.

Second, the information index ignores the depth, usefulness, and quality of information given. Instead of the extensiveness, other important dimensions are not considered. For example, the type of corporate performance shared with employees could have different effects. The company could explain its performance to employees, yet hide some vital information in order to control employees' reactions; or use performance information such as decreasing profit or market share to make employees work harder.

Third, the information listed is based on an assumption that the practice is the best practice of information sharing for every organisation. For example, information about performance and competitor were used as the best proxy of information without considering the variety and the problematic implementation of such information in organisation.

In terms of psychological empowerment, all the cases show high levels of it. This can be seen in the empowerment scores which are in the neighbourhood of five (see Table 3). Food-Co and Steel-Co show higher scores than Wood-Co and Chem-Co. Statistically, there is a significant difference in overall psychological empowerment levels between the four companies. The post hoc test shows that Wood-Co's psychological empowerment level is significantly different from Steel-Co and Food-Co, while there is no significant different between Chem-Co, Steel-Co, and Food-Co. Thus, the difference is mainly because Wood-Co has the lowest scale.

Before discussing the relationships between information and psychological empowerment, there is an important finding that needs more attention. In each company, choice and impact are almost lower than meaning and competence dimensions. Choice and impact indices in each company are around four - (the choice index is 4.05 and the impact index is 4.60), while meaning and competence indices are always above five (the meaning index is 5.60 and the competence index is 5.40). This finding is similar to Spreitzer's (1995) surveys on different employee groups: mid-level managers, clerical workers, and front-line employees; Siegal and Gardner's (1999) study on employees in a manufacturing company; and Kraimer et al.'s (1999) survey on nursing professionals. This similar pattern to the dimensions of psychological empowerment creates some interesting questions for further exploration. First, though many studies support the existence of the four dimensions of empowerment, the choice and impact dimensions could be the most important measures when viewed from a structural perspective. Though the approach is psychological, this notion of psychological empowerment is originally conceptualised from the root of power and control construct of Conger and Kanungo (1988). Feelings of choice - which reflect autonomy or having control over ones' work - and feelings of impact - which indicate significant influences over strategic, administrative, or operational outcomes - are closer to structural perspectives of empowerment. Choice can be regarded as power potential while impact reflects actual power (Kraimer et al 1999). This note is important when we analyse the relationship between structural and psychological empowerment in the next section. Second, some studies also report that meaning and competence are distinct dimensions but choice/self-determination and impact can come together as one dimension (Fullford and Enz, 1995). Therefore, Wall, Wood, and Leach (2004) suggest further qualification for the measures as Spreitzer (1995) comments that the measures need continued refinements. Finally, there is a possibility that the dimensions are sequentially related. For example, choice can be a precursor of meaning while competence can be a precursor of impact.

It could be thought that information sharing might explain variations in psychological scales across the cases. However, the results show the effect of information is different across the cases. Information is the best predictor of psychological empowerment but the effect is significant only at Food-Co (see Table 3 below). Thus, the significant influence of information is clearly not universal. In certain circumstances, information significantly influences

psychological empowerment but it does not in other circumstances.

There are some possible explanations of this finding. **First**, at Food-Co, the relationships are significant since psychological empowerment at Food-Co is at high level. It can be argued that information influences the feeling of empowerment when this is at a high level. In other words, information is relevant when individual has reached a certain level of psychological empowerment.

Table 3. Correlation between Information Sharing and Psychological Empowerment

Information Sharing at	Psychological Empowerment (PE)				
	Meaning	Competence	Choice	Impact	Total
Food-Co		* *		*	*
Steel-Co					
Chem-Co					
Wood-Co				* *	

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Second, since the relationship between information and psychological empowerment is not consistent, contextual factors might influence the links. The factors can be psychological, individual, and organisational. Therefore, contextual factors beyond the relationship need to be explored further. Spreitzer (1995) mentions a personality variable and individual difference factors such as self esteem and locus of control.

Third, one of the possible organisational factors is the extensiveness of Food-Co in using various involvement techniques. Food-Co has the most extensive empowerment climate and the organisational environment is supportive for psychological empowerment. While in other cases, the control climate dominated the environment at Chem-Co, Wood-Co, and Steel-Co. At Wood-Co, control is manifested in close personal supervision, while at Chem-Co it shows in standard operating procedures. Furthermore, closer analysis can be done by looking at which psychological dimensions are influenced by information. We find that at Food-Co competence and impact dimensions are significantly influenced by information. I argue that information about individual performance will influence the feeling of competence, while information about company or unit performance will influence the feeling of impact.

Fourth, the measures of both information and psychological empowerment might fail to reflect the complexity of information sharing and empowerment at the workplace. Information measure has considered the extensiveness of information issues and but not the degree of information shared, while psychological empowerment has only measure the cognitive intra-personal element of individual, while ignoring the inter-personal and behavioural elements (Zimmerman, 2000)

Fifth, the reality of information in organisation might contribute to the relationship given the facts that information sharing gives only limited information to employees. This study found employees were given information as a condition to make them work harder. Therefore, information is not genuinely intended to empower the workers. This finding supports some studies that doubt the impact of information (see Wagner, 1994).

Finally, I would argue that in certain circumstances the psychological empowerment construct is not relevant especially when the organisation has collective culture. Adapting the notion of collective-efficacy of Lam, Chen, and Schaubroek (2002) I suggest that the development of collective empowerment is more appropriate. As discussed before, Spreitzer's psychological empowerment is borrowed from self-efficacy, therefore it can be regarded as self-empowerment. In the Indonesian case, where collective culture is evident, the conception of collective-empowerment could be useful. For example, the relationship between information sharing and psychological empowerment at Wood-Co and Steel-Co – where the individual culture is more evident than at Food-Co - may be explained better if collective empowerment is used rather than self-empowerment.

4. Conclusions

The levels of information sharing and psychological empowerment were found different across the companies studied. The differences might be explained by the different structural initiatives like TQM employed by each organisation.

The relationship between information sharing and empowerment is not consistent in each case. Therefore, the universal effect of information sharing on empowerment is not confirmed. The contextual factors - in which information influencing psychological empowerment - need further analysis.

The more complete dimensions in measuring information sharing and psychological empowerment are argued able to give better understanding of both variables and their relationships.

5. References

[1] Bowen, D.E. and Lawler III, E.E (1992). Empowerment of Service Workers: What, Why, How, and When. Sloan Management Review, 33(3), 31-39.

[2] Bowen, D.E. and Lawler III, E.E (1995). Empowering Service Employees. Sloan Management Review, Summer, 73-84.

[3] Braverman, H. (1974) Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century. New York, London: Monthly Review Press.

[4] Conger, J. A., and Kanungo, R. N. (1988). The empowerment process: integrating

[5] Fulford M.D. and Enz, C.A. (1995). The impact of empowerment on service employees. Journal of Managerial Issues, 7: 161-175.

[6] Fuller, J. B., Morrison, R., Jones, L., Bridger, D. & Brown, V. (1999). The Effect of Empowerment on Transformational Leadership and Job Satisfaction. Journal of Social Psychology, 139(3),

[7] Hermawan, A. (1997) *Terpedaya dengan Pemberdayaan* (Disempowered by Empowerment). Agrimedia 3 (1), 1997.

[8] Kanter, R. M. (1977). Men and women of the corporation. New York: Basic Books.

[9] Koberg, C. S., Boss, R. W., Senjem, J. C. & Goodman, E. A. (1999). Antecedents and outcomes of empowerment. Group & Organisation Management, 24(1),

[10] Kraimer, M.L., Seibert, S.E. & Liden, R.C. (1999). Psychological Empowerment as a multidimentional construct: a test of construct validity. Educational & Psychological Measurement, 59(1),

[11] Kroeker, C.J. (1995). Individual, organisational, and societal empowerment: a study of processes in a Nicaraguan agricultural cooperatives. American Journal of Community Psychology; 23(5), 749-764.

*[12]*Lam, S.S.K., Chen, X., and Schaubroek, J. (2002) Participative decision making and employee performance in different cultures: the moderating effects of allocentrism/idiocentrism and efficacy. Academy of Management Journal 45(5):905-914.

[13] Lashley, C. (1999). Employee empowerment in services: a framework for analysis. Personnel Review, 28(3), 169-191.

[14] Lashley, C. (2000). Empowerment through involvement: a case study of TGI Fridays restaurants. Personnel Review, 29(6), 791-815.

[15] Lashley, C. and McGoldrick, J. (1994). The Limit of Empowerment: A Critical Assesment of Human Resource Strategy for Hospitality Operations. Empowerment in Organisations, 2(3), 25-38.

[16] Lawler, E. E., Mohrman, S.A., and Ledford, G.E., Jr. (1995). Creating High Performance Organizations. San Francisco: Jossey-Bass.

[17] Marchington, M. and Grugulis, I. (2000). 'Best Practice' Human Resource management: Perfect Opportunity or dangerous Illusion? International Journal of Human Resource Management, 11(6), 1104-1124.

[18] Marchington, M. and Wilkinson, A. (2005), Human Resource Management at Work, CIPD, London.

[19] Sewell, G., and Wilkinson, B. (1992) "Someone to Watch Over Me: Surveillance, Discipline and the Just-in-Time Labor Process," Sociology 26(2): 271-289.

[20] Siegall, M. and Gardner, S. (2000) Contextual factors of psychological empowerment. Personnel Review 29(5-6): 703-722.

[21] Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. Academy of Management Journal, 38(5), 1442-1465.

[22] Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. Academy of Management Journal, 39(2), 483-504.

[23] Spreitzer, G. M., Janasz, S.C.D. & Quinn, R.E (1999). Empowered to lead: the role of psychological empowerment in leadership. Journal of Organisational Behaviour, 20, 511-526.

[24] Spreitzer, G. M., Kizilos, M. A. & Nason, S. W. (1997). A dimensional analysis of the relationship between psychological empowerment and effectiveness, satisfaction, and strain. Journal of Management, 23, 679-704.

[25] Thomas, K. W., and Velthouse, B. A. (1990). Cognitive elements of empowerment. Academy of Management Review, 15(4), 666-681.

[26] Wagner, J.A. (1994) Participations effects on performance and satisfaction: A reconsideration of research evidence. Academy of Management Review 19: 312-330.

[27] Wall, T.B., Wood, S.J., and Leach, D.J. (2004) Empowerment and Performance. In: C.L. Cooper and I.T. Robertson (Eds.) International Review of Industrial and Organizational Psychology, New York: Wiley, pp. 1-46.

[28] Webster, F. and Robins, K. (1993) 'I'll be watching you': comment on Sewell and Wilkinson. (response to G. Sewell, and B. Wilkinson, Sociology, vol. 26, p. 271, May 1992), Sociology 27(2):243-252.

[29] Yin Robert, K. (1994). Case study research : design and methods. Thousand Oaks, Calif. ; London: Sage Publications.

[30] Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. American Journal of Community Psychology, 23(5), 581-599.

[31] Zimmerman, M. A. (2000). "Empowerment Theory: Psychoogical, Organisational, and Community Levels of Analysis." Handbook of Community Psychology Ed. Rappaport, J. and Seidman, E. New York: Kluwer Academic/Plenum Publishers.