**THE INFLUENCE OF LEADERSHIP EFFECTIVENESS AND WORK DISCIPLINE ON EMPLOYEES PERFORMANCE OF EDUCATION, YOUTH AND SPORTS DEPARTMENT AT DISTRICT OF PENAJAM PASER UTARA INEAST KALIMANTAN, INDONESIA**

Zaenab Hanim1,

Zaenab [hanim@fkip.unmul.ac.id](mailto:hanim@fkip.unmul.ac.id).

University of Mulawarman1

Ismail2

dinastenagakerjadantramsmigrasi@gmail.com2

Department of Manpower and Transmigration2

Abstract: The research aims to determine the influence between: 1) the leadership effectiveness (X1) with the employee work productivity (Y); 2) the work discipline (X2) with the work productivity (Y); 3) the leadership and the work discipline with the work productivity (Y). The research is done at the Education, Youth and Sports Department District of Penajam Paser Utara used the method of correlational survey. The research sample is all of the employees are 98 people. The data collection technique used is questionnaire. The bivariate data analysis technique is done by using the techniques of regression and simple correlation, while the multivariate data analysis is using the techniques of multiple linear regressions, multiple correlation and partial correlation. The research results show that: 1) there is a significant relationship between the leadership with the employee work productivity with the correlation coefficient ry1 is 0,924 and the significance level 0.000 < 0.05; 2) there is a significant relationship between the work discipline with the employee work productivity with the calculated value 0.815 and the significance level 0.000< 0.05; and 3) there is a significant relationship together between the leadership (X1) and the work discipline (X2) with the work productivity (Y) that is the calculation of significance test is obtained the price of Fcount = 312,710 > Ftable = 3,092 at the significance level α = 0,05 with dk denominator 2 and dk counters 95.

Keywords: Effectiveness, Leadership, Work Discipline, Work Productivity

**I. INTRODUCTION**

The low human resource quality is the basic problem that can obstruct the establishment and national economic development. It is also being a stumbling block in the globalization era, because globalization era is the quality junction era. If the Indonesian nation wants to take part in the global arena, then the first step should be done is arranging the human resource, even from the aspect of intellectual, spiritual, creativity, moral, or responsibility. The human resource quality isvery closely related to the work productivity [1, 12]. Therefore, government officials must have several characteristics such as high expertise and skills, **extensie** knowledge, talent and good potential, good personality, motivation, morale, and work ethic.

Work productivity of civil servant nowadays is still being the spotlight from various kinds of circle. It can be seen either directly or indirectly if the civil servant does not work according to SKPD and behave based on Government Regulation PP no. 46 year 2011 then performance can be observed both good and bad.The efforts made by the government to enforce the civil servant’s discipline through the legal guarantee namely Government Regulation no. 53year2010 about Civil Servant Discipline through inherent supervision and leadership example.

Enhancement of employee work productivity in an organization cannot be separated from the leader role in the organization; leadership is the main key in management which plays the important and strategic role in the survival of a company. The leader is the originator of goal, planning, organizing, moving, and controlling all resources owned so that the goal of education or company can be achieved effectively and efficiently.Therefore, the leader of an organization is charged to always be able to create a condition which can satisfy the employees in working so that they are not only being able to work but also they are willing to work towards the company goal achievement [2, 13]. Syamsul Hadi Senen and Siti Solihat The leader should be able organizing the mindset of the employee to obey and perform every work in accordance with applicable norms and rules. The leader should deliver the organization vision and mission persuasively in language that is easy to understand so that their performance increases [14].

Discipline is very important in a government organization to create a high creativity and work performance as stated by Musanef in the book of Marnis [15] that discipline is also as important as the other principles, means that every employee always influences the result of work performance.Therefore, each member should be discipline. Through a high discipline the main work performance of the employee can be increased. Therefore, the leader needs to instill the discipline to each employee as well as possible.Discipline is a factor affecting the work productivity of employee[1,4].If among employees has ignored the work discipline, then it can certainly that the work productivity will decrease. Even though to get a good work productivity, the discipline of all employees is needed [2,4].

Department of Education, Youth and Sports at District of Penajam Paser Utara as a government organization of district directly related to the education improvement in the district. The role of the Education Department has an important role to increase the education quality and explore the interests of talent also can make the students in the school at District of Penajam Paser Utara become achievers. Therefore, all employees should be increased their performance so that the education quality in District of Penajam Paser Utara increases continually from year to year.

Based on the early observation, the performance achievement in Department of Education and Culture obtained the data that the low level of the employee work discipline seen from their attendance when joining the morning and afternoon ceremony that only reach< 80%, there are some of them often come late and leave the work hour without permission.

Based on the background above, the researchers interest to do more research and set the title: Influence of the Effectiveness of Leadership and Work Discipline towards the Employee Work Productivity of Education, Youth and Sports Department in District of Penajam Paser Utara.

***Reseacrh Objective***

1. To find out the influence of leadership effectiveness towards the employee work productivity at Office of Education, Youth and Sports Department in District of Penajam Paser Utara
2. To find out the influence of discipline towardsthe employee work productivity at Office of Education, Youth and Sports Department in District of Penajam Paser Utara
3. To find out the influence of leadership and discipline effectiveness towardsthe employee work productivity at Office of Education, Youth and Sports Department in District of Penajam Paser Utara

**II. LITERATURE REVIEW**

***A. Work Productivity***

Productivity as the comparison between the results achieved with the overall power or production factors used. Work productivity is the comparison between the results achieved with the role of labor per unit of time[3, 16].

***1. Measurement of Work Productivity***

Measurement of work productivity is basically used to find out how far the level of the employee’s work effectiveness and efficiency in producing a result [20]. In the effort to measure the employee’s ability level in achieving a better result and condition apply (work success). The measurement tool of the employee’s productivity of a company or education is differentiated into two kinds, they are:

* + 1. Physical productivity is a quantitatively productivity such as size, length, weight, numbers of unit, time and the number of workers
    2. Value productivity is size of productivity by using currency value that is stated in rupiahs, yen, won, dollar.

***2. Indicators of measuring the work productivity***

Indicators of work productivity[4, 17] are as follows:1) knowledge, that is someone’s ability which is judged from his knowledge about something related to a task, the use of working tool or technical ability of his work; 2) skills, are specific skills a person has related or correlated to task completion quickly and accurately; 3) abilities, are capacity or the nature of the individual brought from birth or learned which allows someone to do or finish various tasks and works; 4)attitudes, are regularity of someone’s feelings and thoughts and tendency to act on aspects of the environment; 5) behaviors, are regularity of someone’s feelings and thoughts; and 6) tendency to act on aspects of the environment.

***B. Leadership***

Leadership is a director process and giving influence on activities from a group of members who are related to their duties [14]. There are three important implications from the definition1) leadership about other people.Willingness of subordinates to receive a direction from the leader, the members of group help to determine the status of the leader and make the leadership process.Without subordinates, all the leadership quality of a manager become irrelevant. 2)Leadership about unbalanced provision of power between leaders and the members of group. The leaders make the cooperation process run smoothly without any obstacles. 3) Leadership can use the influence.In other words the leaders not only can rule the subordinates for what to do but also can influence how the subordinates carry out his orders.

***Principles of Leadership***

## Some important principles should be concerned by a leader in implementing his daily functions, both inside or outside of organization he led [5, 7, 9,]they are: first: constructive*,*a leader should be able to encourage his subordinates to grow and develop. Second: creative*,*a leader should have a high creativity and can increase his members’ creativity. Third:participatory behavior*,* a leader should involve his members of group a lot in the process of decision making and his organization program implementation. Fourth:cooperative, a leader should concern the cooperation with the people he leads. Fifth:delegative, the success of a leader depends on the ability to delegate the task and responsibility to his subordinates effectively. Sixth:be integrative, a leader should be integrated to the differentiation of function, specialization, importance towards achievement. Seventh: rationalist thinking and objectivity, the success of a leader on the rational and objective decision making on every problem. Eighth: pragmatic, the characteristic of a good leader can make an accurate decision and can be done according to his ability and available sources. Ninth: simplicity, simple attitude and leader appearance can be used as a role model for his members. Tenth:be adaptable and flexible, a leader should be able to create an appropriate working climate and not rigid.

***C. Work discipline***

Discipline is a word we often hear that is provisions in the form of regulations that are explicitly necessary also including sanctions to be received if there is violation occurred towards the provisions. Discipline is a condition that is created and formed through a process of series of behaviors that shows values of obedience, loyalty, peace, regularity, and orderliness [6, 8].

*W*ork discipline aims to create the orderliness, then work discipline according to Triyatno includes four aspects[8], they are: 1) discipline towards provisions for working hours. This aspect refers to the use or the utilization of the available working hours for the employees in performing their tasks. In the other words, the existence of the employee’s efforts to work by obeying the applicable of working hours provisions according to the procedur and Standard Operational Procedure.The use of efficient time and activities that is carefully arranged will decrease mostly serious behavior. 2) Discipline to the Regulations. The regulation is the statement that is shown to an employee about what to do. The regulations still establish the specific behavior patternsthat are implied so that it is being efficient for the routine supervision.3)Discipline to the leader’s instruction, the leader should also be responsible to the staff assignment or delegate as certain tasks to the staff to obey and obedient to the leader’s commands instructions either concern about certain tasks given to him or another instructions. 4)Discipline of the increasing cooperation effort. This aspect refers to someone’s ability to cooperate with others in finishing a defined task to achieve the maximum amount of use.

**III. RESEARCH METHOD**

The research was done at the Office of Education, Youth and Sports Department in District of Penajam Paser Utara by using correlational method survey. The research sample is all employees, they are 98 people. The data collection used a questionnaire distributed to all of the research samples. The test data analysis requirements were using error normality test, multi colinearity test,heterocedasticity test and auto correlation test.The data analysis technique bivariate done by using techniques of simple regression and simple correlation to test the first and second hypothesis.While the data analysis multivariate was using techniques of multiple linear regressions and multiple correlations to test the third hypothesis, also partial correlation to find out which variable is more contributed to the dependent variable that is the employee work productivity.

**IV. RESEARCH RESULTS**

*A.****The first hypothesis testing reads: there is no significant influence between the leadership effectiveness (X1) with the employee work productivity (Y)****.*

The result of statistical calculation is shown in table1, as follows.

Table 1. ANAVA Linear Regression X1and Y with Regression Equation

Ŷ = 26.39 + 0.88X1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variation Source | Dk | JK | RJK | Fcount | Ftable  α = 0.05 | Sig |
| Resid-ual Regression | 1  96 | 2. 25  2. 13 | 19762.01  35.24 | 560.79 | 3. 94 | 0. 000 |
| Total | 97 |  |  |  |  |  |

Based on table 1, the calculation result to the significance test is obtained Fcount = 560. 79> Ftable = 3. 94, value of sig 0. 000 < α 0. 05, means that the linear regression equation line is very significant at the level α = 0.05.Table 2 Significance Test of Correlation Coefficient of Leadership (X1) with the work productivity.

Table 2: Correlation of Leadership with the Employee Work Productivity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N | ry1 | (ry1)2 | Tcount | ttable | Conclusion |
| 98 | 1. 92 | 1. 85 | 23.68\*\* | 1. 66 | Significant |

Based on table 2, the statistical calculation result of the first hypothesis test reads (H0) there is no influence of the leadership effectivity towards the work productivity and Ha is accepted reads: there is significant influence of the leadership effectiveness towards the work productivity.There is a very strong influence of the significance test with the significance level of α = 0. 000. Thus, it can be concluded that the better of the leadership then the more influential and good the level of work productivity level.The coefficient of determination is obtained the value of 0,854 which shows that 85,4% of variation at the work productivity (Y) is influenced by the leadership (X1) through regression equation line Ŷ = 26. 39 + 0. 88 X1. While 14.6% of the rest is the contribution from the other factor.

*B.* ***Second hypothesis testing: there is no significant influence between the work discipline (X2) with the employee work productivity(Y) as H0.***

The hypothesis testing is to find out the significant influence between the work disciplines with the work productivity as Ha.The analysis technique used is finding the the equation of simple linear regression line and simple correlation.The calculation result of simple linear regression analysis is obtained the regression equation of Ŷ = 33. 16 + 0. 80 X2. Testing of the significance test is obtained the form of the equation line of significant and linear. The result of testing calculation can be seen on table 3 as follows.

Table 3: ANAVA Linear Regression of X2and Y with Regression Equation of

Ŷ = 1.05 + 0.02X2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variation Source | Dk | JK | RJK | Fcount | Ftable  α = 0.05 |
| Residual Regression | 1  96 | 15541. 87  7603.12 | 15541.87  9. 20 | 196.24 | 3.94 |
| Total | 97 | 23144.99 |  |  |  |

Based on table 3, the calculation result is obtained Fcount= 196.24 > Ftablel = 3.94, means that the equation line of the linear regression is significant at the level of α = 0.05.The equation line is shown by Ŷ = 33.16 + 0.80 X2 shows that the enhancement of every one unit score of work discipline can increase the raise of work productivity that is 0.795 at the constant of 33.16. The calculation result wards the power of influence towards the work discipline (X2) with the employee work productivity(Y) is shown by the correlation coefficient of ry1that is 0.82 at a very strong relationship level (look at table 4). To test the significance of correlation coefficient Y of X2 used t test is obtained tcount = 14.01 >t table1.66, means that the correlation coefficient between the work discipline (X2) and the work productivity (Y) has a significant influence with a positive direction. Table 4 shows that the testing of significance level of the correlation coefficient as follows.

Tablel 4: Correlation Coefficient of the Work Discipline (X2) with

the Work Prodcutivity (Y)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N | ry1 | (ry1)2 | tcount | ttable | Conclusion |
| 98 | 0. 82 | 0.67 | 14. 09 | 1. 66 | Significant |

Based on the second hypothesis reads: there is influence of work discipline toward work productivity can be accepted based on the significance test there is a very strong influence with the significance level of α = 0.05. Thus, it can be concluded that the better of the work discipline then the better of the employee work productivity level also. The coefficient determination is obtained 0.67 that shows 67.2% of variation at the work productivity (Y) can be influenced by the work discipline (X2) through the regression equation line of Ŷ = 33. 16 + 0.80X 2.

***C. Third hypothesis: there is no influence of the interaction between the leadership (X1) and the work discipline (X2) with the work productivity (Y).***

The result of multiple regression analysis obtained the regression line equation of Ŷ = 22.01+ 0.72X1 + 0. 20 X2 which is very significant as the following table 5.

Table 5: Table of Multiple Regression with Regression

Ŷ = 22.01 + 0.72X1 + 0.20 X2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variation Source | Dk | JK | RJK | Fcount | Ftable  α = 0.05 |
| Residual Regression | 2  95 | 20062.92  3052.07 | 10046.46  32.13 | 312.71 | 3.09 |
| Total | 97 | 23144.99 |  |  |  |

Based on the hypothesis test, it can be concluded that the third hypothesis reads there is influence of the leadership effectiveness and the work discipline towards the work productivity can be accepted. Table 5 shows that the calculation of hypothesis test is obtained the price of Fcount = 312.71 > Ftable = 3.09 at the significant level α = 0.05 with dk of denominator 2 and dk of counters 95. Thus, it can be concluded that the equation of multiple regression line Ŷ = 22.01 + 0.72 X1 + 0.20X2 is significant.The calculation result shows the coefficient of multiple correlation is ry12 = 0.93 that shows there is a very strong influence. The determination coefficient from the multiple correlation shows the number of ry12 = (0. 93)2 = 0. 87. It means that the leadership and the work discipline give variation or contribution towards the employee work productivity that is 86,8% through the equation of multiple regression line Ŷ = 22. 01+ 0.72X1+ 0.20X2.

**V. DISCUSSION**

***A. The Influence of Leadership Effectiveness towards Work Productivity***

The research result shows there is a significance influence between the leadership towards the work productivity that is shown with the level of a very strong influence and contribution given by the leadership towards the work productivity that is 85,4%. The research result explained that the leadership has a very big influence towards the employee work productivity; it means that the good leadership effectiveness gives the good evaluation too towards the employees work productivity.This research resultsupports to Blau et al, Kelman research and Agung [18, 19, 21] also showsthat the leader should be able to manage the mindset and attitude of his employee to obey and implement every work in accordance with the applicable norms and rules.The leader should be able to deliver the vision and mission of the organization persuasively with language that easily understood by the employees to improve their performance.The success of an organization in achieving the goals through the efforts to move other people in the organization or institution are irrespective of capacity, role, behavior and characteristic of a leader, this is in line with Hasibuan, Malayu [2].

The research supports the research done by Nilda in the year of2017 [9] who examined the influence of leadership towards staffing productivity at the office of Health Department. The control needed for the effective leadership enables the leaders to design the situations to the followers who developed the internal control and self confidence that grow from them.The leader observed and gave compliments to the employees who work well.The leader who is effective can be successful by instilling confidence to the staff as the personal characteristic of the leader, so that helped the follower to do a transformation in the leader’s style.

The research result gives the meaning that the better of the leadership control can improve the employee work productivity. The superiority of the leader is able to embrace the subordinates in implementing his task so that it has a positive impact on the subordinates’ performance.However, the weakness of the leader such as lack of ability in making a work planning,lack in the work creativity is the factors that inhibited the employee work creativity so that they reduced the level of subordinates’ performance.

***B. The Influence of Work Discipline towards Work Productivity***

The research result shown that there is a significant influence between the work discipline towards the work productivity with the contribution given such as the discipline towards the work productivity of 67,2%.The research result explained that the work discipline has a very big influence towards the employee work productivity.The employee work discipline is very important in a government organization to create the high work productivity and achievement as stated by Musanef in the book of Marnis and Fajar [15, 20] that discipline with the other principles are also very important to influence someone’s work achievement.

This research supports the research done by Tintri [10] andElvis Anto Manalu.[11], that through a high discipline has influence to the improvement of work productivity.

If among employees have ignored the discipline, then it can be sure that the workproductivity will be decreased.Even though to get the work productivity, the discipline of the employees is really needed.

The research supports the research done by Tintri [10] about the influence of work discipline with the employee work result. The research result shows that there is influence of the employee work discipline although it cannot be said to be high.Because there are still violations done by the employee and the sanction given does not have the effect of increasing the work concerned,so the discipline violations still occur frequently even though it is currently experiencing a decline in violations but it has not significantly impacted to the work productivity (observation result).

***C. The Influence of Leadership Effectiveness and Work Discipline towards The Work Productivity***

*B*ased on the research result, it can be seen that both of the leadership and the work discipline have influence towards the work productivity with a very strong level, the leadership and work discipline give contribution of 81,5% towards the work productivity.The research result explained that the influence of leadership and work discipline is very big towards the work productivity with a positive direction.If the leadership and work discipline increased then the work productivity will also increase. The leadership and work discipline have influence towards the employee work productivity, it is in line withYuki andNilda [7, 9] that leadership can help to direct the employee to do his task correctly and according to the existing rules are the aspects in the work discipline to be obeyed. The good leadership plus the control of the employee work discipline can increase the work prodcutivity. The research supports the previous research done by Handoko T Hanioleh and Ni Made Ayu Trisna Dewi [6, 14]. The research result shows that the good leadership gives more dominant influence than the employee work discipline. It means that the leadership is very influential in motivating and moving the employee work productivity in a unit of organization. The research supports the research done by Stephan Gerhard Huber. [22] then, it focuses on the growing importance placed on activities to prepare school leaders due to the ever-increasing responsibilities they are facing.

The research supportsalso the research done by Elvis Anto Manalu[11] about the influence of motivation, leadership and discipline towards the employee work productivity of Forestry and Plantation Department at District Tapanuli Tengah.

**VI. CONCLUSION**

There is significant positive influence between the leadership effectiveness and the work productivity. There is a very strong influence quantitatively with the contribution of 86,4%, it means that the very strong influence of the leadership can increase the employee work productivity with the example and responsibility given to each employee.There is also significant positive influence between the work disciplines with the work productivity with a very strong influence. The work disciplne is a capital for the employees to increase their work productivity. Then there is a very significant positive influence between the leadership and work discipline towards the employee work productivity, both predictor variables go hand in hand with the response variable. Thus, the better of the leadership and the work discipline can increase the employee work productivity well too; it means that there is an enhancement of awareness of the subordinates’ awareness to be better in implementing the task delegated to all members of the employees.Nevertheless, the research still also has weakness in terms of observation and interview so as it can give chance for other researcher even quantitatively or qualitatively.

**REFFERENCES**

[1] Simamora, Henry. (2010). Human Resources Management*.* Second Edition. Yogyakarta: STIE YKPN.

[2] Hasibuan, Malayu S.P). (2007. Human Resources Management*.* Edisi Revisi. Jakarta: Bumi Aksara.

[3] Atmojo, Marnis. (2012). The Influence of Transformational Leadership on Job Satisfaction, Organizational Commitment, and Employee Performance. Riau: Universitas Riau.

[4] Ardana, I komang, Ni Wayan Muljati, I Wayan Mudiartha, (2012). Human Resources Management. Yogyakarta: Graha Ilmu.

[5] Cardoso Gomes, Faustino. (2008). Human Resources Management. First Edition. Jakarta: Andi Offset.

[6] Handoko T Hani. (2009). Manajgement 1.Jakarta: LP3ES.

[7] Yukl Gary.( 2010). Leadership in Organization*.* Fifth Edition. Jakarta: PT. Indeks.

[8] Prijodarminto. (2008).  Discipline as Tips to Success*.* Jakarta: Abadi.

[9] Nilda. (2017). “The effect of leadership on Employee’s work productivityat Health’s Office in Kabupaten Kutai Barat*,* Kalimantan Timur”. <http://ejurnal.untag-smd.ac.id/index.Php/> EKM/article/view/1139.

[10] Tintri. (2012). “The effect of disciplin on Employee’s work productivityat PT Food Station Tjipinang Jaya”. Economic Journal*.* Repository Universitas Gunadarma.

[11]Elvis Anto Manalu. (2014). The effect of motivation, Leadership, and disciplin on Employee’s work productivityat Forestry’s Office in the district of Tapanuli Tengah, Indonesia. Journal of Bussiness and management. Vol 1, No 1. 2014.

[12] M. Harlie. (2012). “The effect of di sciplin, motivation, carier development on Employee’s performance at the district of Tabalong”. Journal of Management Aplication. Volume 10. No 4 Desember 2012.

[13] Syamsul Hadi Senen and Siti Solihat. (2008). “The effect of motivation and work ability on employee’s work productivity at PT. Safilindo Permata”. Strategic Journal, Volume 7, Nomor 14, September 2008.

[14] Ni Made Ayu Trisna Dewi and Gede Sri Darma. (2016). “ The effectiveness of leadership, growth, performance and regulation of the financial services authority”. .Jounal Management and Bussnis. ISSN : 1829-8486. Volume 13, . No. 1, Pebruari 2016.

[15] Atmojo, Marnis. (2012). The Influence of Transformational Leadership on Job Satisfaction, Organizational Commitment, and Employee Performance. Riau: Riau University.

[16] Purnama. (2017). “The effect of leadership on Employee Performance at CV. Mitra Denso in Lampong, Indonesia”. Jounal Of Organization and Management. Vol.2,No:1 (34-45) Maret 2017.

[17] Rony Faslah dan Meghar Trantari savitri. (2013) .”The effect of motivation and disciplin on employee’s work productivity at PT Kabolindo Murni”. Journal Economic Education and Bussiness. Vol 1, No 2 October 2013.

[18] Kelman.(2006). Compliance, identification, and internalization: Three processes of attitude change. Journal of Conflict Resolution. Vol 2 (1):51-60.

[19] Agung Setiawan. (2013). The Effect of Disciplin and Work Motivation on Employee’s Performance at Public Kanjuruhan Hospital In Malang. Jounal of Management, vol 1, no 4, July 2013.

[20] Fajar Afriani. (2009). The effect of competence, motivation, and leaership leadership on work afectivity at Mulawarman University, Kalimantan Timur. Journal of Administration and Organization. Vol 16, No 1, April 2009, p 13-17. 2012

[21] Blau, I. & Presser, O. (2013). E-Leadership of school principals: Increasing school effectiveness by a school data management system. British Journal of Educational Technology. doi:10.1111/bjet.12088 1.

[22] Stephan Gerhard Huber. (2004). School leadership and leadership development Adjusting leadership theories and development programs to values and the core purpose of school. Journal of Educational Administration Vol. 42 No. 6, 2004 pp. 669-684 q Emerald Group Publishing Limited 0957-8234 DOI 10.1108/09578230410563665