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Dear Dr. Muhammad Yunus Zain,

It is our great pleasure to invite you to Chiba University in order to participate in "Conference on Socioeconomy and Institutional Arrangement" to be held in Chiba, Japan, from March 11th to March 12th, 2013.

The primary objective of the conference is to make an opportunity, for the first time, for researchers of our Indonesian sister universities and Chiba University to meet, and discuss on various issues related to economics that takes institutional arrangements as principal constituents. Also, we would like to ask you to present your work in the conference.

We would like to pay your airfare from Indonesia to Japan (round trip, economy class) and accommodations from March 10th to March 12th, 2013.

We believe that your attendance at the conference will be very valuable for the future of both of our universities.

We are looking forward to hearing from you and looking forward to seeing you near future.

Sincerely,

Hiroshi Nakagawa
Dean
Graduate School of Humanities and Social Sciences
Chiba University
SIGNALING THE AMOUNT AND QUALITY OF TRAINING WITH REPUTATION

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ABSTRACT

By revisiting the optimal control model of Spremanns (1985) and Yunus (1999), I again find a consistent explanation of optimal output (training program) decision of an on-the-job training (OJT) provider and how the trainees translate signal of advertising-like effort and reputation into expectation of quality (amount) and training fee. In reality, a firm may vary the amount and quality of OJT that it offers to its trainees. This paper then provides the signaling mechanism and measurement the amount and quality of the firm’s offered training to its workers and the potential investment of OJT provider in reputation. The focus is on the training fee (firm-worker shared fee) policy and the advertising-like expenditure of an OJT provider faced with trainees who are only incompletely informed about both quality (amount) and training fee. Under full information, the paper considers OJT quality (amount) to be a given constant, thus training fee also reflect the amount and quality-price ratio (AQFR). A good value of AQFR may be perceived as non-exploited employees by gaining firm-specific human capital, whereas a low quality is seen as employer exploits its workers. Training fee cuts (raises wage or reduces worker’s shared fee) lead to a preferable (more firm-specific human capital gains) while an increase in training fee result in a worse value of the AQFR and decreasing reputation. Indeed, reputation is an abstract asset (investment), which increases according to training program (service) of OJT provider and the degree of the worker’s satisfaction with the realized AQFR. Reputation is thus under an OJT provider’s controls, but the question is whether and how the provider (firm) should invest in this kind of abstract asset. The dynamic modeling of reputation and the analysis show that there are two optimal training program policies of OJT provider, both being departure from fee-corresponds-to-quality mode. One policy is the unexpected cheap OJT fee. On the other hand, the OJT provider (firm) might also work in an optimal way by charging too much with respect to offered quality such that trainees have every reason to halt further participation, this way reducing but not eliminating workers’ future demand on OJT program. OJT provider’s advertising-like efforts in relation to the size of training facility signal the level of training fee rather than quality. Whichever of the two departures is the case, a relatively high or a relatively low OJT quality is signaled by reputation.

Author Keywords: Signaling, Reputation, On-the-job training, Cost sharing (training fee), Human capital

1. INTRODUCTION

Backer’s human capital theory does not require any type of informational imperfection (Kawaguchi, 2003). In the real world, there is always an asymmetric information problem, however, on the interaction between the two agents who work around principal-agent problems, e.g., firms and workers, that can leads to the potential for exploitation. Based on the contract theory, moreover, Lazear (1979) and Lazear and Moore (1984) explained that it is optimal for employers to pay their employees less than the workers’ marginal product when the workers are young (less ability), and more than the workers’ marginal product when they are old (skilled).

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The human capital theory (Backer, 1993) also predict that employers optimally always pay their employers equal to the workers' marginal product and realizing that wage growth with work experience because of workers' skill information. In addition, Backer's traditional theory predicts that the training in which endows workers with general human capital is paid for by workers, while the cost of investment with firm-specific human capital is shared by both workers and firms. Since Lazear's contract theory and the human capital theory are not mutually exclusive, it is very difficult to attribute observed wage growth and knowing who paid for the training investment to either model exclusively (see Groot, 1994; Groux and Maurin, 2000; Scoones, 2000; Fiorillo, Santacroce, and Staffolani, 2000; Raauw, and Torp, 2002; Orszag and Snower, 2003; and Kawaguchi, 2003).

Participation in training is not straightforwardly as a way of general or firm-specific human capital accumulation to workers since some training programs that take place in the market may be unrecognized because they are informal. To work around this problem, the paper focuses on-the-job training program categories (e.g., apprenticeship program; formal company training program run by the firm's vocational rehabilitation center or military training; and seminar or training programs at work not run by the firm) in which salary workers should formally hold for gaining either general or firm-specific human capital accumulation. Although the training whose direct cost (fee) is paid by the employer might be paid for by workers eventually in term of lower wages, the training whose direct cost (fee) is paid for by the employees arguably comprises the minimal amount of training that endows workers only with general human capital. In other word, either form of on-the-job training (OJT, hereafter) programs are meant at all respects under the firm's or the OJT provider's control (see Schlicht, 1996; Groot, 1994; and Bauer and Haisken-DeNew, 2001). On the other hand, the trained workers can observed the amount and quality of training only after OJT is completed in where they always pay a certain amount of training fee for both direct cost or indirectly in term of lower wage.

Indeed, a firm that offered OJT may vary the amount and quality of OJT that it offers to its trainees. Under full information, the firm will just offer the socially optimal amount of training, taking also into account productivity gains in other occupations. If the trainee can, however, form an opinion about the amount and quality of OJT only after training is completed, this creates a possibility for the firm to offer less training and make extra profit. Schlicht (1996) asserted that this moral hazard problem may be solved if the firms that offer good training reap a continuous flow of extra profit, but such a solution is not always maintainable. Vocational training standards or layoff restrictions, as well as other institutional features, may emerge as institutional solutions to this problem. The model of this paper therefore attends to show that the above solution is in fact should be optimal and sustainable to the firm regardless to any institutional restrictions. Although we know well that hiring and firing workers are costly to the employers, but still there are no grounds to believe that firms or OJT providers are not willing to engage in opportunistic behavior since there is always an asymmetric information problem among the agents (see also Yunus, 1999).

This paper then provides the signaling mechanism and measurement the amount and quality of the firm's offered OJT to its workers and the potential investment of OJT provider in reputation. The analysis provides a departure from the piecemal approach of the existing asymmetry information literature (Spence, 1973; Salop and Salop, 1976; Salop and Stiglitz, 1977; Javanovic, 1979; Chan and Leland, 1982; Perri, 1994; Rosen, 1994; Strand, 2000; Calabuig and Olcina, 2000; Bell and Orr, 2002; Kugler, 2003; Sousa-Poza and Ziegler, 2003). The paper revisits the model of Spremanns (1985) as well as of Yunus (1999) which is consistent in the explanation of optimal output (OJT program) decision of OJT provider and how the trainees translate signal of advertising-like effort and reputation into expectation of OJT quality and training fee.
The focus is on the training fee policy and the advertising-like expenditure of an OJT provider faced with trainees who are only incompletely informed about both quality (amount) and training fee. Quality (amount) and training fee relation might not be directly observed before workers have completed experience to the firm's OJT (provider). A good value of the amount and quality-fee-ratio may be perceived as layoff restriction or exit vocational training standard (i.e., non-exploited employees with firm-specific human capital gains) whereas a low quality (in relation to the training fee charge) is seen as employer exploits its workers (i.e., workers have an incentive to quit the job with general human capital gains).

The information that the trainee uses is based on advertising-like effort and reputation. Advertising-like effort reflects an OJT provider's real investment while reputation results from the offered program of OJT services (sales or the number of trained workers) and the workers' experience. Advertising-like expenditure can therefore be inferred from firm's OJT outward appearance, training tools (apparatus), trainers characteristics, building and location; reputation from word-of-mouth (see also Banerjee, 1993; Ellison and Fudenberg, 1995; Chamley and Gale, 1994; Bala and Goyal, 1998; Duflo and Saez, 2000; Calabuig and Olcina, 2000; Banerjee and Fudenberg, 2004). In a situation where interested workers (trainees) communicate with others who have had experience of OJT service, each worker trained or each unit of OJT program sold carries a market signal. The intensity of this signal increases with: a) the total number of worker already trained (the total quantity already sold); and b) the amount and quality-training fee-ratio as perceived by the trained workers (old trainees). In this sense, reputation is an abstract asset (investment), which increases according to training program (service) of OJT provider and the degree of the worker's satisfaction with the realized amount and quality in relation to the training fee charged. In other word, reputation reflects also the firm-worker shared cost (fee) of OJT with true firm-specific human capital gains. Reputation is thus under the OJT provider's controls, but the question is whether and how the provider (firm) should invest in this kind of abstract asset.

Whereas the paper considers OJT quality (amount) to be a given constant (although known only by the firm and probably by old trainees), training fee also reflect the amount and quality-fee-ratio. Training fee cuts (raises wage or reduces worker’s shared cost for OJT) lead to a preferable (more firm-specific human capital gains) while an increase in training fee result in a worse value of the amount and quality-fee-ratio and decreasing reputation.

The dynamic modeling of reputation and the analysis show that there are two optimal output policies of OJT provider, both being departure from OJT fee-corresponds-to-quality mode. One policy is the unexpected cheap OJT fee. On the other hand, the OJT provider (firm) might also work in an optimal way by charging too much with respect to OJT program offered quality such that workers (trainees) have every reason to halt further OJT participation, this way reducing but not eliminating future demand of OJT program. OJT provider's advertising-like efforts in relation to the size of OJT facility signal the level of training fee rather than quality. Whichever of the two departures is the case, a relatively high or a relatively low OJT quality is signaled by reputation.

2. THE BASIC MODEL

Firm's OJT program is provided at continuous time (t) and the total spot worker's OJT demand (q_t) is assumed to depend on: a) the current reputation R_t (new trainees); b) the training fee (p_t) (old trainees); and c) the stock (A_t) of cumulative advertising-like expenditure (old and new trainees). Simplifying the demand function with respect to (p_t) and (A_t) by supposing constant
workers’ OJT demand) in the sense of high training fee charged in spite of the negative reputation created. The amount and quality of offered OJT program may be high, of course, but training fees are terrific.

REFERENCES

