Incentives in the Transition to a Self-managing Maintenance Organization

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Abstract: This study investigates the effects of incentives in the environment where new mobile technology has streamlined the organizational structure and incurred the need for a supporting incentive system to enhance the productivity of self-organizing autonomous teams. In the near future, energy distribution and its governance procedures will resemble the structure and operating environment of current ICT infrastructure. The findings confirm the importance of intangible incentives, especially perceived recognition from supervisors and peers. In practice, managers can increase the perceived job satisfaction by showing explicitly their interest in employees' well-being and also by establishing an incentive system that comprehensively fulfils both effectiveness and humanity aspects. Further research may be targeted to investigate the balance between these two aspects and what factors may mediate these effects.

Keywords: incentive, job satisfaction, motivation, employee, interview

Introduction

Companies use incentive systems to motivate and reward employees. During the last two decades, incentives have become more popular and companies spend a great deal of money on incentive systems. Almost 65 per cent of companies have introduced a new reward system during the last three years and half of companies have planned to adopt an incentive system during the next three years in Finland (Salimäki, Sweins, Heiskanen, & Laamanen 2009, p. 6). This study investigates the effects of incentives in the environment where new mobile technology has streamlined the organizational structure and incurred the need for a supporting incentive system to enhance the productivity of self-organizing autonomous teams.

In the near future, energy distribution and its governance procedures will start to resemble the structure and operating environment of current ICT infrastructure. Practically, it is expected that energy distribution will become more decentralized thus requiring, for example, automated remote control that in turn creates the need for effective maintenance work. Concurrently, development of mobile technologies has enabled the possibility for organizational structures to become leaner. Workers can have mobile devices that enable them access to all information from the company's ERP systems, including work orders and work loadings. Several energy firms are now considering or already piloting new systems to operate via self-managed autonomous teams as an alternative to traditional supervised teams. With our study, we are able to demonstrate what kinds of incentive systems can support self-managed teams and also why they are considered effective. In addition, we have identified the link between job satisfaction and incentives, which further improves the incentive systems' effectiveness in the changing business environment.

Motivated by both academic interest and the participating companies' practical targets to become better employers, this study focused on how different incentives affect performance and job satisfaction. In the study, the effects of recognition (e.g. Herzberg 1968; Stajkovic & Luthans, 2001; Tsutsumi & Kwakami, 2004), participation (e.g. Fernie & Metcalf 1995; Brown 1996), feedback (e.g. Kluger & DeNisi, 1996; Rynes et al., 2005), monetary incentives (e.g. Pfeffer, 1998; Jamer, 2004), non-monetary tangible incentives and benefits (e.g. Condly et al., 2003) on performance and job satisfaction are examined. Hence, the ultimate goal is to find the balance between incentives that generate job satisfaction and those that improve performance. This study is part of a larger research project that investigates resource optimization in future energy markets via the Smart Grid approach. We explore how workers consider different incentive solutions and which ones might provide the best opportunities to fulfil both theoretical and practical needs. Finally, we formulate propositions to be tested in future studies.

Theoretical background

Different types of incentives are typically divided into financial and non-financial. We know that financial incentives are able to improve performance by several percentage points (e.g. Locke et al., 1980; Cotton et al., 1988; Brown, 1996; Deci et al., 1999; Kluger & DeNisi, 1996; Stajkovic & Luthans, 2001; Rynes et al., 2005). Thus, non-financial incentives play an important role in increasing job satisfaction and performance. Figure 1 represents different types of incentives that will be discussed in more detail.

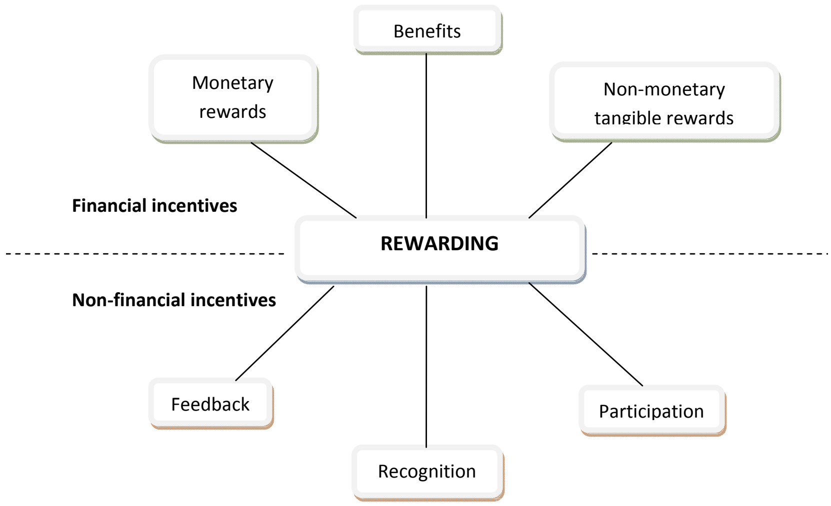


Figure 1. Different types of incentives.

Financial incentives

Financial incentives typically include base pay, profit sharing, gain sharing, benefits, initiative rewards, and special rewards. Except for benefits and special rewards, financial incentives are typically paid as money. However, benefits and special rewards are part of financial incentives because employees benefit from them economically. In this section, we focus on three key concepts: monetary rewards, benefits, and non-monetary tangible rewards.

Employees usually say that they find financial incentives less attractive and satisfying than non-financial incentives when asked directly about them (e.g. Kalleberg, 1977, pp. 135–136: Towers Perrin, 2003; Kauhanen, 2009). However, some researchers have claimed that this is not really the case, but for some reason the results indicate that intrinsic rewards have a greater effect on job satisfaction than extrinsic rewards, such as monetary incentives. Kalleberg (1977, p. 136) states that the effect of rewards depends on their relative variance. For instance, if an employer concentrates only on intrinsic rewards, such as feedback and participation, the variance of intrinsic rewards would reduce. At the same time, however, the relative variance of financial rewards, such as monetary incentives and benefits, increases. Because of the relatively high variance of financial rewards, they have been found to be the most important determinant of job satisfaction. Financial rewards have been at the centre of reward systems for a long time. This could lead to a situation where the relative variance of intrinsic rewards has increased thus making them the most important determinant of employee job satisfaction. (Kalleberg, 1977, p. 136). Rynes et al. (2004, p. 384) have a different view. According to them, study results depend on how the matter has been studied. If employees are asked directly if they find money an important determinant of motivation and satisfaction, they usually understate the effect of money. When employees are asked indirectly—for example, “Does your colleague find financial incentives important?”—financial incentives are usually found to be more important than non-financial incentives. One reason for this could be that employees may find it social unacceptable to rank money the most important thing for themselves (Rynes et al. 2004, p. 384).

Whether financial incentives are the most important incentives affecting employees' job satisfaction or not, it must be noticed that especially with financial incentives, case equity is a very important factor affecting employees' incentive satisfaction, which in turn is part of overall job satisfaction (e.g. Marsden & Richardson, 1994, pp. 252–258; Tremblay et al., 2000, pp. 273–280; Salimäki, Hakonen, & Heneman, 2009, pp. 164–173). Equity can be divided into two categories: distributive justice and procedural justice. Distributive justice refers to equity with coworkers. Employees' incentives should be relative to their reference group. Procedural justice refers to the means by which incentives are distributed to employees (Tremblay et al. 2000, pp. 273–280; Salimäki et al., 2009, pp. 164–173). External and internal comparisons are also relevant (Salimäki et al., 2009, p. 165). According to external comparisons, satisfaction depends on the comparison of individual's outcome-input ratio to the ratio of coworkers (Adams, 1965, as cited in Salimäki et al., 2009, p. 165). Internal comparison in turn refers to an individual's perception of what he or she should get compared to what he or she really gets. Internal comparison shares a similar premise with the expectancy theory. If an employee feels that incentives are unfair, he or she will be less satisfied with them. For example, in Marsden and Richardson's case study (1994, pp. 252–258) employees experienced incentives as unfair and, partly because of that, found incentives overall to be negative. Moreover Trembly et al. (2000, pp. 273–280) found that procedural justice is more important than distributive justice in the case of rewards. This is quite logical because usually there is a plan by which incentives are distributed to employees and it may make it possible for employees to receive different amount of incentives.

According to Tang's (1992, p. 201) study, income generally has a strong positive correlation with employees' job satisfaction. This could indicate that monetary incentives should also have a positive effect on job satisfaction. Indeed several studies have reported that different kinds of monetary incentives have a positive effect on employees' overall job satisfaction (Rusbult & Farrel, 1983, pp. 433–436; Cameron et al., 2001, p. 16; Green & Heywood, 2008, pp. 716–717; Puoliakas & Theodossiou 2009, pp. 673–675). In their meta-analysis, Cameron et al. (2001, p. 16) reported that monetary incentives have only a small effect on overall job satisfaction whereas other studies found a strong correlation between monetary incentives and job satisfaction. There are also some empirical studies that have not researched this correlation but in turn have reported employees' positive reactions towards monetary incentives. In a case study on the electric utility industry, 72 per cent of employees wanted to continue monetary incentives after a year-long pilot project (Petty, Singleton, & Connell, 1992, pp. 430–431). This seems to indicate that the majority of employees were satisfied with monetary incentives. Similar results were found in a case study in three screw-machine companies where employees reported quite positive reactions towards monetary incentive programs and also the companies' turnover rate was reduced as well (McGrath, 1994, p. 593).

However, some studies have also found that monetary incentives have a negative effect or do not have an effect at all on job satisfaction. In their laboratory test, Wright et al. (1993, p. 378) found no correlation between a monetary bonus and a commitment which in turn would indicate job satisfaction. Also in Marsden and Richardson's case study (1994, pp. 252–258), employees reported negative feelings and effects on job satisfaction after the monetary incentive program was introduced. Besides decreased job satisfaction, employees also reported that the atmosphere deteriorated. Moreover Rynes et al. (2005, p. 582) found that after introducing a monetary incentive program, some of the employees quit their jobs. This result strongly indicates that those employees were not satisfied with monetary incentives. However, according to researchers, this can also indicate that people who have a need for achievement and high self-efficacy find monetary incentives more attractive and are more satisfied with them (Rynes et al., 2005, p. 582). Puoliakas and Theodossiou (2009, pp. 673–675) found in their long, empirical study (1998–2005) that monetary incentives have a significant positive correlation with overall job satisfaction. However, they also found those employees with a monetary incentive system were less satisfied with the working hours and level of stress they experienced in their work than employees without an incentive program. According to Puoliakas and Theodossiou, monetary incentive systems can cause psychological strain to employees (2009, pp. 673–675). It must be considered that psychological strain can have negative effects on job satisfaction in the long run. In their empirical study, Hanlon and Taylor (1994, p. 100) found that monetary incentives generate an increased moral commitment. Further, Rusbult and Farrel (1983, pp. 433–436) reported that monetary incentives correlate with employee commitment. Commitment can, in turn, indicate employee job satisfaction.

In Kauhanen's research (2009), employees regarded non-monetary tangible incentives as somehow important. However, employees ranked them as the least important rewards. Shaffer and Arkes (2009, pp. 862–863) found that when people evaluated non-monetary tangible incentives separately from monetary incentives, they find non-monetary incentives more attractive. Shaffer and Arkes (2009, pp. 862–863) suggested that this finding can be explained by the luxurious value of non-monetary tangible incentives. Usually non-monetary tangible incentives are something special and luxurious. Because of this, people find these incentives desirable but cannot justify buying them themselves. This is why people find non-monetary tangible incentives attractive and they can generate employee job satisfaction. However Shaffer and Arkes (2009, pp. 862–863) also found that when people evaluate non-monetary tangible incentives jointly with monetary incentives, people become more rational and choose monetary instead of non-monetary tangible incentives. This finding in turn indicates that non-monetary tangible incentives may be a less important source of job satisfaction than monetary ones.

Perceived feelings of justice have to be considered also when discussing non-monetary tangible incentives. Such incentives are usually delivered unexpectedly, thus there is no proper incentive plan according to which non-monetary tangible incentives are distributed to employees. This violates standards of perceived procedural justice, which is an important determinant of incentive satisfaction. Incentive satisfaction in turn affects overall job satisfaction. Hence, non-monetary tangible incentives may have negative effects on job satisfaction, at least in the long run.

In Towers Perrin's study (2003, pp. 21–23), benefits were found to be relatively important in attracting employees. In the study, over 50 per cent looked upon such benefits favourably. In contrast, only 25 per cent looked upon monetary incentives favourably (2003, p. 25). In addition, in Kauhanen's study, employees found benefits somewhat or quite important, although benefits were almost at the end of the list. Williams (1995, p. 1098) has reported that benefit satisfaction is related to commitment and citizenship. Employees are more satisfied with benefits when there is communication about benefits and employees' opinions are taken into account (Williams, 1995, p. 1120; Tremblay et al., 1998, pp. 674–675). This finding may indicate that flexible benefits have a stronger positive effect on job satisfaction than normal benefits. Indeed, other studies have found that flexible benefits generate more job satisfaction than normal benefit plans (Barber, Dunham, & Formisano, 1992, pp. 57–58; Tremblay et al., 1998, pp. 674–675). Barber et al. reported that flexible benefits increased benefit satisfaction significantly, which in turn led to improved overall job satisfaction. However, overall job satisfaction did not improve as much as benefit satisfaction (1992, pp. 65–66).

According to Barber et al. (1992, pp. 57–58), flexible benefits create job satisfaction in two different ways. First flexible benefits increase job satisfaction because people can have what they find important. Because of freedom of choice, employees are more satisfied with their benefits. Tremblay et al. (1998, p. 671) also found this in their study. Secondarily, employees are more aware of the nature and value of the organization's benefits when using a flexible benefit system. This is because employees find out more about benefits when choosing their own benefit package. According to Barber et al. (1992, pp. 57–58), employees usually undervalue the benefits offered by the employer. This is not the case in flexible benefit systems because employees are more aware of the value of different benefits. Employees' improved awareness of this value makes benefits more attractive and important to them. This, in turn, can to lead to improved job satisfaction.

Non-financial incentives

In this section, we focus on three key concepts: feedback, recognition, and participation. Often when employees are asked directly which incentives they find the most attractive and important, monetary incentives are not at the beginning of the list (e.g. Kalleberg 1977, pp. 135–136; Towers Perrin 2003; Kauhanen, 2009). According to Kalleberg's study (1977, pp. 135–136), intrinsic rewards have the greatest effect on employee job satisfaction. Towers Perrin studied about 40,000 full-time employees working in North America in 2003, finding that monetary incentives were not in the top ten factors that were engaging (i.e., motivating) employees. Instead, the top ten factors motivating employees include management interest in the well-being of employees; the work itself; the possibility to influence in decision making; and career opportunities. In the top ten factors attracting employees, base pay was ranked second and performance-based pay was eighth. Top ten attracting factors also include different kind of benefits, challenging work, and recognition (Towers Perrin 2003, pp. 21–23). Kauhanen (2009) studied how important different incentives are for employees and found that base pay was ranked as most important. Following base pay, the list included mainly non-financial incentives, such as the permanence of employment, flexible working times, feedback, and career opportunities. Different financial incentives were at the end of list. However, employees did find financial incentives to be somewhat or quite important to them (Kauhanen, 2009). These studies show the relative importance of non-financial incentives to employees, including feedback, recognition, possibilities for participation, the work itself, and permanence of the employment.

Feedback has been defined as actions taken by an external agent to provide information regarding some aspect of one's task performance (Kluger & DeNisi, 1996, p. 255). One of the advantages of feedback is that, according to the definition, besides motivating it also provides important knowledge about the employee's performance for the employee him or herself. Finnish employees listed feedback as the fifth most important means of reward (Kauhanen, 2009). This indicates that feedback can also cause job satisfaction because employees find it important. Rynes et al. (2005, p. 576) found that feedback correlates with employee job satisfaction. Cameron et al. (2001, pp. 15–16) reported that feedback correlates positively with employees' self-reported task interest, which can be transferred to employees' job satisfaction. Jaworski and Kohli (1991, pp. 197–198) found that positive feedback generates job satisfaction but negative feedback does not have an effect on job satisfaction (Jaworski & Kohli 1991, pp. 197–198). In addition, Katz (1978, p. 212) reported that feedback had a great effect on employee job satisfaction, especially at the beginning of employment.

Recognition can be, for example, verbal acknowledgement that the work has been done well or can be an employee of the month prize. In the Towers Perrin (2003, pp. 21–23) study, recognition was ranked as ninth most important in attracting new employees. According to Herzberg's (1968) motivation-hygiene theory, recognition is a source of job satisfaction. Indeed a study that investigated teachers' job satisfaction found that recognition from management and coworkers had a strong positive effect on teachers' job satisfaction (Chapman & Lowther, 1982, pp. 244–245). In addition, Cameron et al. (2001, pp. 15–16) reported that verbal rewards, which include verbal recognition, have a positive effect on employees' self-reported satisfaction with their job. However, there can be some bias in this result because in the study, verbal rewards included both verbal feedback and verbal recognition. Sibbald et al. (2000) studied GPs' (general practitioners') job satisfaction in 1987, 1990, and 1998. In their study, recognition was ranked either as the first, second, or third most important factor in determining a GPs' job satisfaction (Sibbald et al. 2000, p. 367). Several studies on the effect of monetary incentives on performance suggest that the motivating effect of money is based on the symbolic value of money, which can be seen as social recognition (e.g. Frey, 1997, p. 430; Deci et al., 1999, p. 628; Rynes, Gerhart, & Minette 2004, p. 385). However, there have not been many studies researching how this aspect affects job satisfaction.

Participation means that employees are able to take part in and influence the organization's operations and the content of their own work (Brown, 1996; Fernie & Metcalf, 1995, p. 382). In the Towers Perrin (2003, pp. 21–23) study, the possibility of influencing work decisions was ranked as the third most important motivating factor. In addition, Brown (1996, p. 235) suggested, on the basis of his meta-analysis, that participation is an important determinate of job satisfaction because it can make work more meaningful. Locke (2004, p. 711) has stated that the possibility of influencing decision making and taking responsibility for decisions is a mentally challenging part of work, which in turn is the most important determinant of job satisfaction. Indeed, Brown (1996, pp. 239–244) found a strong positive correlation between participation and commitment. Commitment to the organization and the work in turn indicates job satisfaction. Brown (1996, pp. 243–244) also found that participation correlates negatively with employee turnover. Like employee commitment, decreased turnover also indicates employee job satisfaction. In addition, Fernie et al. (1995, p. 382) found that employees' possibilities for participation increased job satisfaction. Also Cotton et al. (1988, pp. 12–14) reported that employee participation had positive effect on job satisfaction. However, unlike in other research, Cotton et al. found that participation's effect on job satisfaction was only modest and that only long-term participation had an effect on job satisfaction. Short-term participation had no effect on employee job satisfaction (1988, pp. 12–14).

Besides participation's positive effect on job satisfaction, Katz (1987) found that this satisfaction is dependent on the duration of the employment. Indeed when an employee has worked for some time, the positive effect of participation on the employee's job satisfaction increases. This indicates that an employee's need for participation increases as a function of the time working in the organization. Katz (1987) also stated that the greater the employee's influence on decision making, the more satisfied the employee is and that autonomy was an important determinant of employee job satisfaction. Autonomy can be seen as a form of participation because the employee is able to make his or her own decisions concerning his or her work. Cognitive evaluation theory supports Katz's finding in that autonomy is one of the individual's basic needs along with competence. Fernie et al. (1995) reported that participation also has a positive effect on industrial relations and the climate in the workplace. An improved climate and better industrial relations can, in turn, generate job satisfaction. For example, in the Towers Perrin (2003, pp. 21–23) study, the work environment was an important factor engaging employees. In this way, participation can also indirectly affect job satisfaction. Furthermore Brown (1996) stated that employees with possibilities for participation have greater job satisfaction in every situation than employees without, who became more easily dissatisfied (p. 247). This can be easily explained by the fact that employees with participation possibilities probably have better information and understanding and this, in turn, can make exceptional situations more acceptable.

Based on the above review, we now focus on the key question: What kinds of incentive systems can support self-managed teams and, in addition, why they are considered effective? Further, can the link between job satisfaction and incentives even further improve the performance of incentive systems in changing businesses?

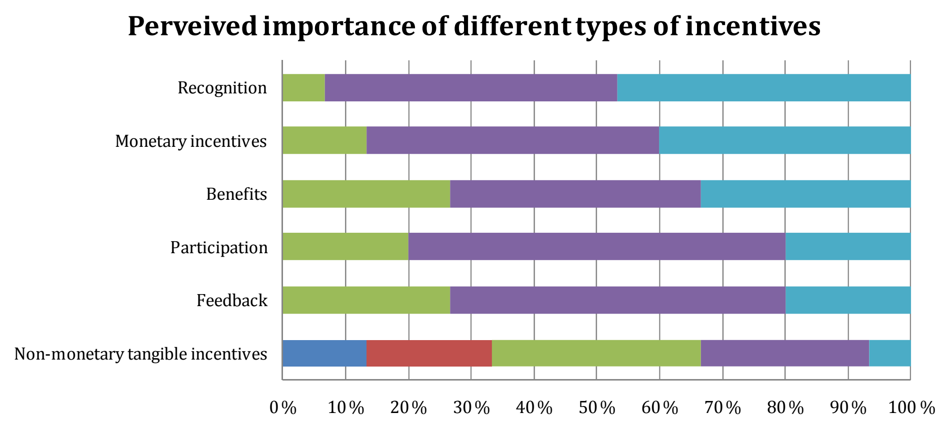
Method and data

Primarily motivated by practical interest, we employed interviews to identify which incentives employees considered most attractive and meaningful. In order to focus on the incentives and their effectiveness, interviews were carried out in the summer of 2010 in one case company transitioning towards a more self-organizing structure. The interviewees had personal experience from such an operating environment, which improves the validity of our results. In total, fifteen workers were interviewed.

The interview was semi-structured and a total of 42 questions were asked. All questions investigating interviewees' opinions about the importance of different incentives were structured questions. In other words, interviewees were given alternatives from which to choose. All these questions were formulated in a similar manner: "*How important do you find this incentive.*" One-third of questions used a five-point Likert scale to improve the comparability to previous studies and further enhance the reliability of this study. In addition, questions investigating the importance of different incentives were structured to improve the comparability of received responses between several interviewees. This also enabled comparisons between different incentives because interviewees used the same scale in the case of every incentive. This was very important regarding the objective of the interview, which was to find out which incentives employees preferred the most.

Results

The interview conducted resulted in both quantitative numbers of variations and qualifying comments. The distribution of perceived importance for different types of incentives is presented in Figure 2. The respondents perceived recognition as the most important incentive type. Monetary incentives were considered the second most important incentive. According to respondents, the least important type of reward was non-monetary tangible incentives, which received the two lowest-level perceptions.



	Non-monetary tangible incentives	Feedback	Participation	Benefits	Monetary incentives	Recognition
Not important at all	2	0	0	0	0	0
Little important	3	0	0	0	0	0
Somewhat important	5	4	3	4	2	1
Quite important	4	8	9	6	7	7
Very important	1	3	3	5	6	7

Figure 2. The distribution of importance of different incentives according to interviews.

In order to analyze if the results were statistically different from uniform distribution, we used the Chi-Square Test. We found that the distribution of responses did not significantly differ from uniform distribution, i.e. our null hypothesis was retained for all variables. In addition, we were interested in finding out if our variables correlated statistically. By using Spearman's rho test we found that correlations between variables were statistically insignificant at the level 0.01 (2-tailed).

In the interview, respondents considered that receiving recognition made work more meaningful. Recognition was defined as personal attention that expresses interest, approval, and appreciation (Stajkovic & Luthans, 2001, p. 582). The most common response was that the work was more meaningful and interesting when you have a feeling that coworkers and managers appreciate you and your work. Recognition was also considered to have a strong effect on the meaningfulness of work, thus it can be concluded that recognition can also have a strong effect on employee job satisfaction. This finding supports earlier studies (e.g. Chapman & Lowther, 1982, pp. 244–245; Sibbald et al., 2001, p. 367). Two-thirds of interviewees think that recognition also motivates and improves work efficacy. Without that feeling of appreciation they would have a weaker attitude towards work. In addition, half the interviewees said that social recognition is a prerequisite for teamwork. These findings support the idea that recognition is a source of intrinsic motivation.

On the best way to deliver social recognition, two-thirds answered that a verbal "*pat on the back*" or positive verbal feedback was best. Further, interviewees confirmed the common belief that positive verbal feedback and saying "*Thank you*" were the best way for managers and superiors to deliver social recognition. However, a few interviewees said that verbal recognition has to be delivered naturally and cannot sound like praise. In addition, almost everyone thought that pay and monetary incentives would signal the appreciation of the work and the employees.

Again, two-thirds of interviewees considered monetary incentives to be effective. Overall, the positive correlation between monetary incentives and job satisfaction was established in prior studies (e.g. Rusbult & Farrel, 1983, pp. 433–436; Cameron et al., 2001, p. 16; Green & Heywood, 2008, pp. 716–717; Puoliakas & Theodossiou, 2009, pp. 673–675). Half of the interviewees also emphasized their physiological needs and their need for money. This finding supports Maslow's hierarchy of needs, according to which at lower income levels physiological needs are usually determinants of motivation. However, some studies have also found no correlation or negative correlation between monetary incentives and job satisfaction (Wright et al., 1993, p. 378; Marsden & Richardson, 1994, pp. 252–258; Rynes et al., 2005, p. 582; Puoliakas & Theodossiou, 2009, pp. 673–675). Two-thirds of interviewees mentioned that monetary incentives signal the appreciation of the work and employees. Interviewees felt that monetary incentives would give them important information about their performance.

Half of the interviewees found that a piece-rate bonus system would be the most suitable monetary incentive system for their work. The other half thought that a profit-sharing system and department-specific objectives derived from the company's profit targets could be workable incentive systems in this specific work environment. Indeed every interviewee with experience of a piece-rate bonus system felt this bonus system was good. Others considered profit-sharing system as the most suitable for their work environment. Almost all interviewees thought that a team-based monetary incentive system would be better than an individual-based system. The most commonly mentioned reason was that the performance of all the tasks is strongly dependent on the working of the whole team. Interviewees also emphasized the importance of team spirit and teamwork. In addition, a few interviewees mentioned that it is difficult to compare individual tasks and that these are a relatively small part of the total amount of work. This would make an individual-based monetary incentive system complicated.

Other important findings that emerged in the interviews about monetary incentive systems were procedural justice and the size of the teams. A few interviewees mentioned that employees have to know the means according to which monetary incentives are distributed. This is in line with earlier studies (e.g. Marsden & Richardson, 1994, pp. 252–258; Tremblay et al., 2000, pp. 273–280; Salimäki, Hakonen, & Heneman, 2009, pp. 164–173). A few interviewees highlighted the importance of the size of the team on which monetary incentives are divided. According to them, the size of team should be small enough that the individual worker feels that he or she is able to have an effect on the team results. This finding, in turn, supports Kaufman's results about the size of the team (see Rynes et al., 2005, p. 590). The most common reason why interviewees found benefits important was financial. Half of the interviewees mentioned that monetary incentives would be more attractive to them. As well, quite often interviewees thought that benefits were a nice increment but they did not consider benefits as rewards, which is typical (e.g. Williams 1995, p. 1119). Qualitative responses were quite fragmented when interviewees were asked about the best benefits that an employer could offer to employees; however, possibilities for physical exercise were the most commonly mentioned. Usually, interviewees argued that employers would also benefit from employees' exercise possibilities because it could lead to decreased sick leaves. In addition, a few interviewees found company-paid telephone and broadband networks useful and, further, that they would be very suitable for this work environment.

When asked about the importance of participation, half of the interviewees answered that employees would have a better understanding of how tasks are performed in the field. Hence interviewees felt that work tasks run more smoothly if employees can influence job design. The other half of the interviewees mentioned that possibility to influence their work makes work more meaningful and humane. This supports Brown's (1996, p. 235) findings about participation, the meaningfulness of work, and job satisfaction. Most of the interviewees were satisfied with their participation possibilities at the moment and did now have any suggestions for improvement. However, a few interviewees mentioned that the employer could listen to employees more, especially about issues relating to employee training and resources needed to perform work tasks.

Almost all respondents (13 of 15) mentioned that feedback can provide important information regarding one's task performance. These interviewees felt that knowledge of one's task performance is important because it enables personal development in the work. Besides, these interviewees also felt that feedback could be an efficient way to spread good work methods in the workplace. Nine of the interviewees mentioned that feedback creates the sense of recognition. When employees are given feedback, they feel that superiors and managers are interested in employees and their work. A third of interviewees mentioned that feedback motivates them. This supports earlier studies where feedback correlates positively with self-reported task interest (Cameron et al. 2001, pp. 15–16). These interviewees said that negative feedback would get them work harder and positive feedback would help to maintain performance and that the motivating effect of positive feedback is based on its recognition aspect. This finding supports Kluger and DeNisi's (1996, pp. 260–263) findings that negative feedback increases performance and positive feedback maintains or decreases performance.

Two-thirds of the interviewees felt that they did not get enough feedback. Commonly mentioned was that employees assume they have performed well if they hear nothing afterwards. Most of the interviewees also said that if they get feedback, it usually pertains to general matters, such as how company is performing financially. Indeed half of the interviewees mentioned that they would like to have more individual feedback regarding their work. Half of the interviewees felt that verbal feedback would be better than the present feedback system in which feedback is delivered through email. This goes against earlier research that found verbal feedback moves attention from task to self more easily than written feedback. The transition of attention from the task to the individual worker attenuates the effect of the feedback (Kluger & DeNisi, 1996, pp. 269–275). However interviewees' explanations for verbal feedback were quite reasonable; they mentioned that email feedback gets drowned among other emails, which attenuates the importance of feedback. Another reason was that email feedback usually comes with a delay, which attenuates promptness feedback.

Interviewees considered non-monetary tangible incentives to be and unimportant type of incentive, mostly because different people have different needs and preferences. Half of the interviewees thought that they would probably receive insignificant rewards under a non-monetary tangible incentive-system. This problem was also mentioned by Jeffrey and Shaffer (2007, p. 48) who found that at lower income levels, non-monetary tangible incentives can be perceived as worthless because of a basic need for money. However, there was some variation in opinions. One-third mentioned that non-monetary tangible incentives are important because they feel like a sincere “thank you” for the good work. This gives a feeling that employer is interested in employees and cares about their wellbeing. This distinguishes non-monetary incentives clearly from monetary incentives. Usually, interviewees thought that they are justified to get monetary incentives if they put extra effort on work and their performance improved, a finding especially noticed by Jeffrey and Shaffer (2007, pp. 45–46). The best way to deliver non-monetary tangible incentives to employees, half of the interviewees said, was to deliver them at the end of the year for all employees as a thank you for good year. In addition, one-third emphasized a more prompt way to way to recognize individual well-performed tasks. However, some of the interviewees considered that individual tasks cannot be rewarded under any circumstances because every task is different and highly dependent on the whole team’s performance. Finally, a third of the interviewees thought that non-monetary tangible incentives could be delivered according to certain objectives.

Discussion and conclusion

This study has several outcomes that merit the further discussion. It seems that all incentives types are important but they have different meanings for employees. As in Herzberg’s hygiene-motivation theory, it seems that there are two different aspects in rewarding, effectiveness and humanity. Incentives affect different aspects in various ways. The effectiveness aspect means that employees feel they are justified to get monetary incentives because they have put in extra work. In other words, employees feel that part of the company’s profit belongs to them because they have invested their time and effort in the company. Monetary incentives are the most important incentives in rewarding the effectiveness aspect. For the humanity aspect, it is important that employees feel that the employer is interested in the employees, their work, and their wellbeing. Recognition, feedback, participation, benefits, and non-monetary tangible incentives can fulfil these humanity needs.

Both of these aspects seem to be important in motivating and generating job satisfaction. However, according to previous literature, monetary incentives are the most effective in increasing performance. Non-financial—such as feedback, recognition, and participation—incentives are considered more important in generating job satisfaction. Furthermore, benefits and non-monetary tangible incentives are considered important in generating job satisfaction and signalling that the employer is interested in the employees and their well-being. However, it is important to notice that these aspects complement each other, thus emphasising a comprehensive reward system.

When analyzing the results statistically for uniform distribution, we used the Chi-Square Test. We found the distribution of responses differs insignificantly from uniform distribution. In addition, we were interested in finding if our variables correlated statistically. By using Spearman's rho test, we found that correlations between variables were statistically insignificant at the level 0.01 (2-tailed), which might be explained by the limited number of interviews.

In practice, managers can increase perceived job satisfaction by showing explicitly their interest in employees' well-being and also by establishing an incentive system that comprehensively fulfils both effectiveness and humanity aspects. Further studies should be targeted on learning how to balance these two perspectives and what factors may mediate these effects and why. In addition, managers could identify key development issues present when a company starts its maintenance organization's transformation towards a more self-managing one. Future studies could be targeted to linking experiences from knowledge work to maintenance work environments, as these two traditionally different structures are becoming more similar via increased use of new mobile technologies.

This study has some limitations, such as a limited number of interviews and focusing on the one operational environment. However, this focus was due to the managerial motivation of the study. In addition, the results might be biased, as some respondents were somewhat unwilling to cooperate. Future research should focus on studying different incentives in comparative settings. At the moment there are no longitudinal case studies comparing the effect of different incentives on performance and job satisfaction concurrently. Research should be executed in a similar working environment so that the results would be comparable and exposed to as few variables as possible. This kind of long-time case study would reveal whether non-financial incentives are more important than financial incentives in the long run. Finally, the cost-effectiveness of different incentives could be an interesting research subject.

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