

VARIABLE PAY: A CASE STUDY IN WAREHOUSE LOGISTICS

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Abstract

The use of variable pay schemes has been identified as a means of rewarding employees in order to increase their motivation and productivity. However, experiences from post-transition economies show prevalent use of variable pay model in the sales sector. The reason behind that is insufficient interest by top management into other sectors, such as supply chain management. In addition, supply chain management and different types of distribution channels have not yet been recognized as the sources of competitive advantage. Furthermore, when compared to the sales sector, performance is hard to measure within the supply chains suggesting the need for more complex performance indicators. The main aim of this paper is to present the introduction of variable pay schemes in warehouse logistics leading to productivity improvement. In that context, a case study method is used to compare warehouse employees' fixed and variable pay and their impact on employees' performance. The results reveal significant differences in warehouse employees' performance outputs after introducing variable pay schemes. The research is limited by the levels of technology used in the warehouse operations. Consequently, the lack of a precise classification of warehouse employees' activities can be noted indicating the need to include subjective indicators in the analysis. Finally, performance management in post-transition economies is still rather delicate field with top management still being sceptical about the use of performance pay schemes. In that sense, the efforts should be made to develop efficient solutions to improve employee motivation and performance.

Key words: supply chain management, variable pay, warehouse logistics, Bosnia and Herzegovina

1. INTRODUCTION

Traditional pay systems have been revised in response to changing business objectives and new forms of work organisation (Arrowsmith et al., 2010). As a result, performance pay is growing in importance (Dale-Olsen, 2012). In this context, it is often stated that performance pay is fundamental for competitive organizations (Appelbaum & Shapiro, 1991; Appelbaum & Shapiro, 1992). As stressed by Yeh et al. (2009), today performance-based pay systems are commonly implemented in workplaces as a business strategy to improve workers' performance and reduce labour costs. In that sense, the use of performance-related pay can enhance performance outcomes (Belfield & Marsden, 2003).

Two terms that are related to merit pay are “pay-for-performance” and “variable pay” (Heneman & Werner, 2005, p. 6). As observed by Heneman (2002, p. 214), variable pay is a method of rewarding employees for the results they achieve in organizations. In this context, individual or collective worker effort or performance is rewarded through incentive-based payments (Colling & Terry, 2010). However, Heneman & Werner (2005) emphasize that these rewards do not get permanently added to an employee's base salary. Following Armstrong & Murlis (2007, p. 298), “*variable pay is the payment of cash to individuals in form of performance pay or bonuses on the basis of their own performance or that of their team or organization*”. On the other hand, pay-for-performance generally refers to any incentive plan that links employee pay to some measure of performance (Heneman & Werner, 2005).

Organizations are increasingly using variable pay plans to reward employees for the results that they achieve (Miceli & Heneman, 2000). Eriksson & Villeval (2008) emphasize that variable pay links pay and performance but may also help firms to attract more productive employees. When it comes to the advantages of variable pay, Armstrong (2002, p. 19) outlines that these are perceived as its ability to form partnership between employees and organization, to vary pay costs with performance, and to create the need for high levels of teamwork and collaboration. Furthermore, Armstrong & Murlis (2007) argue that variable pay has always been the rule in executive pay, sales representatives' remuneration and payment-by-result schemes for manual workers. Although evidence suggests there is a growing use of variable pay schemes in firms to increase employee motivation and productivity, Burke & Hsieh (2006) emphasize that the choice between fixed and variable pay affects the firm's employee productivity, operating leverage, market risk, cost of capital, and cash flows.

According to Cox (2005), two approaches in evaluations of variable pay systems can be outlined. Although it is argued that both of these approaches suffer from limitations, the first seeks to associate superior financial performance with the use of incentive schemes, whereas the second assesses the success of variable pay systems in effecting behavioural and attitudinal change. On the other hand, it is also emphasized that variable pay for performance may undermine employees' efforts. In this context, it is also argued that rewards crowd out intrinsic motivation under identified conditions, and a bonus system then makes employees lose interest in the immediate goal (Osterloh & Frey, 2002, p. 107). Similarly, Lewis (1991) argued that performance-related pay had a capacity to subvert the purposes for which it was

intended by distorting pay structures, creating unfairness in reward systems and harming team spirit.

The main aim of the paper is to present the introduction of variable pay schemes in warehouse logistics in Bosnia and Herzegovina. In this context, the paper examines variable pay as a means of motivation in the warehouse logistics and indicates possible reasons for its ineffectiveness. To this end, the paper is structured as follows. Following the introduction, recent empirical studies on variable pay are discussed in the second section. The third section deals with a case study comparing warehouse employees' fixed and variable pay and their impact on employees' performance. Finally, the paper closes with conclusions drawn from the paper.

2. LITERATURE REVIEW OF EMPIRICAL STUDIES ON VARIABLE PAY

Recent empirical studies on variable pay have identified different issues that deepen understanding of the complexity of the topic, e.g. pay satisfaction, motivational effects, risk preferences, workplace absenteeism, the education of managers, money attitudes, etc. The link between individual and group variable pay and pay satisfaction among Canadian workers was the focus of the study by Cloutier, Morin & Renaud (2013). Their results revealed that individual and group variable pay plans acted differently on workers' pay satisfaction. For individual pay plans, workers on variable pay plans wanted to be rewarded not only for performance but also for effort. On the other hand, as regards group pay plans, receiving payouts created pay dissatisfaction. Moreover, Thozhur, Riley & Szivas, (2006) suggested that individual differences in money attitudes was found to be a significant variable in explaining pay satisfaction of people in low pay.

In addition, McCausland, Pouliakas & Theodossiou (2005) examined whether significant differences existed in job satisfaction between individuals receiving performance-related pay and those on alternative compensation plans. It was found that while the predicted job satisfaction of workers receiving performance-related pay was lower on average compared to those on other pay schemes, performance-related pay exerted a positive effect on the mean job satisfaction of (very) high-paid workers. The findings of the paper suggest that using performance pay as an incentive device in the UK could prove to be counterproductive in the long run for certain low-paid occupations, as far as employee job satisfaction is concerned. On the other hand, Merriman & Deckop (2007) analysed motivational effects of loss aversion in a heterogeneous sample of respondents subject to variable pay plans in their organizations within the US. They found that variable pay framed as a loss was associated with greater work effort and performance, and less deviant behaviour in the workplace.

Another important issue in the context of implementation of variable pay schemes refers to the education of managers. Taking into consideration Italian firms, Damiani & Ricci (2014) examined the role of the education of managers with respect to the adoption of different types of variable pay bonuses at the individual, team, and establishment levels. Their results suggested that highly educated managers were more likely to use team and individual forms of variable pay schemes. In addition, in order

to identify determinants of variable pay to the subsidiary general manager, Bjorkman & Furu (2000) investigated 110 foreign-owned subsidiaries located in Finland. As a result, they found a significant 'nationality effect' on the use of variable pay. On the other hand, no effect was found with regard to the cultural distance between the home country of the multinational corporation and the location of the foreign subsidiary.

The issue of absenteeism in the workplace was also examined in the context of variable compensation. In particular, Pouliakas & Theodoropoulos (2012) explored the effect of variable pay schemes on workplace absenteeism using two cross-sections of private sector British establishments. Based on the findings, establishments that explicitly linked pay with individual performance were found to have significantly lower absence rates, and the effect was stronger for establishments that offered variable pay schemes to a greater share of their non-managerial workforce. Moreover, the results revealed that establishments that tied a greater proportion of employees' earnings to variable pay schemes experienced lower absence rates. Similarly, the study by Dale-Olsen (2012) showed that team organisation and performance pay were found to be negatively related to sickness absence incidence rates and sick days.

Furthermore, the emphasis was also put on risk preferences in the context of compensation. The study by Kuhn & Yockey (2003) revealed that people were not generally risk averse in this context, but rather that risk preferences depended on the nature of the variable pay plan. In that context, variable pay was preferred more often when incentives were based on individual rather than collective (team or organizational) performance. Moreover, participants in the study were more optimistic about the likelihood of receiving incentives as individuals. Additionally, Kurtulus, Kruse & Blasi (2011) investigated worker attitudes toward employee ownership, profit sharing, and variable pay, as well as preferences over variable pay in general. The results of their study showed that, on average, workers wanted at least a part of their compensation to be performance-related, with stronger preferences for output-contingent pay schemes among workers who had lower levels of risk aversion, greater residual control over the work process, and greater trust of co-workers and management.

In general, the link between firm size and ownership structure was also explored with regard to performance-related pay. Based on Norwegian establishment surveys, Barth et al. (2008) found that performance-related pay was more prevalent in firms where workers of the main occupation had a high degree of autonomy in how to organise their work. Moreover, it was found that performance pay was more widespread in large firms whereas the incidence of performance-related pay related positively to product-market competition and foreign ownership. Similarly, examining performance pay and corporate structures in UK firms, Conyon et al. (2001) confirmed that large firms were more likely to adopt performance related pay schemes and their results showed that such adoption was also linked with significant organisational design change through delayering. Additionally, using a representative sample of German establishments, Heywood & Jirjahn (2014) showed that those with foreign ownership were more likely to use performance appraisal, profit-sharing and employee share ownership than those with domestic ownership.

The focus of the research by Wei & Rowley (2009) was pay for performance in China's non-public sector enterprises. In that context, they identified three major

factors as reasons for management to apply pay for performance plans, namely, market practices/best practices, the need to attract and retain good performers, as well as the need to improve employee performance. The relationship between performance-related pay and firm performance was also the focus of research. In particular, Piekkola (2005) analysed the productivity effects of the introduction of performance-related pay scheme in Finland. The findings revealed that performance-related pay schemes had substantially improved firm performance without creating much wage pressures. Furthermore, it was showed that performance-related pay improved both productivity and profitability. In addition, Belfield & Marsden (2003) stated that the relationship between performance-related pay and performance outcomes was qualified by the structure of workplace monitoring environments. Their study also presented evidence that managers learned about optimum combinations of pay system and monitoring environment through a process of experimentation.

Based on a review of empirical studies, it can be observed that more related research is still needed to better understand the complexity of the topic. In particular, this refers to experiences from post-transition economies. In light of this, the next chapter deals with a case study of a FMCG company in Bosnia and Herzegovina.

3. CASE STUDY

Following the primary work motivation, this chapter looks at the case study which is the result of the introduction of variable pay in warehouse logistics. The mentioned study describes a business example from the distribution practices of FMCG products in the market of Bosnia and Herzegovina, where the system of variable pay was introduced in early 2013.

3.1. Baseline situation

Warehouse operations in the distribution of FMCG products in the Bosnia and Herzegovina market consists of several activities. In addition to order picking of goods as the core activities of warehouse operations, warehouse employees are involved in the activities of cleaning and maintaining the warehouse, unloading of goods on arrival, loading of picked goods, activities connected to operating a forklift, goods inventory control, etc. Additionally, in this case study warehouse workers are further involved in the activity of order picking goods in cold storage which is used for storing ice cream and other frozen goods the so called below freezing mode. In the end, despite numerous activities of warehouse employees, their performance is viewed through the number of picked orders or items on orders. All other activities are supporting work activities which serve the final order picking of goods.

Our case study included 15 warehouse employees. Their fixed net monthly salaries are in the range of 400 - 500 EUR. The exact amount of the net salary of each employee depends on the length of service and generally on his status in the company, but, most frequently, it comes to subjective assessments of superiors. The average monthly performance of warehouse employees is possible to measure using parameters in Table 1.

Table 1. Statistics of order picking of warehouse employees with fixed pay

Employees	Number of items	Quantity	Net salary
Warehouse worker 1	7,595	145,630	450
Warehouse worker 2	5,114	131,597	450
Warehouse worker 3	4,040	102,660	425
Warehouse worker 4	4,951	107,092	450
Warehouse worker 5	2,027	65,505	450
Warehouse worker 6	2,950	83,475	450
Warehouse worker 7	7,183	147,792	425
Warehouse worker 8	5,503	96,985	450
Warehouse worker 9	5,683	105,108	425
Warehouse worker 10	1,094	56,408	450
Warehouse worker 11	3,293	69,512	450
Warehouse worker 12	3,935	100,579	450
Warehouse worker 13	6,690	189,277	475
Warehouse worker 14	6,364	128,513	475
Warehouse worker 15	6,595	142,807	450
Total	73,017	1,672,939	6,725

Source: Authors' calculations

A characteristic of such a defined payment policy is that the height of salary is not closely related to the direct performance of individual employees. The consequence is a certain constancy of salary over time, without much change, whether increasing or decreasing. The motivation of warehouse employees is not stimulated in this way and employees are only left with their “internal” motivation for work, which, for managers, does not leave much room for management in terms of increasing work efficiency in warehouse employees. Therefore, the total number of warehouse employees required for order picking of average monthly work inputs is mainly the result of subjective perception based on previous experience and not objective

indicators in accordance with the controlling principle of calculation of the necessary resources in the company (cf. Lukovic & Lebefromm, 2009; Lukovic & Lebefromm, 2014; Weber & Wallenburg, 2010).

3.2. Introducing a variable pay calculation system

Following the hypothesis that by introducing a variable pay calculation system for warehouse employees it is possible to affect their work efficiency, a variable pay calculation system was formulated, where the variable part of the pay will be calculated according to the following formula:

$$((\text{item} + \text{quantity}) / 100) * 0.15 \text{EUR}$$

In a variable pay calculation system each employee is guaranteed a fixed part of the pay in the amount of 250 EUR, while the rest of the net pay is calculated using formula the above. A situation is created in which every employee is faced with the fact that they themselves must “earn” the variable part of the pay i.e. that part of the pay which must be covered by performance. At the same time, the idea is that the fixed part of pay is not a “gift” to employees without any performance coverage, but, rather, it represents compensation for all other activities performed by warehouse employees in addition to regular order picking of goods. In this way, everyone should be equally motivated to work on cleaning and maintenance, loading and unloading of goods, inventory control, etc. All other activities such as operating a forklift or working in cold storage require separate “agreements” made by certain employees with immediate superiors in warehouse management.

After the initial “running-in” and accepting the variable pay system, the following performance was measured on an average month and it is presented in Table 2.

Table 2. Statistics of order picking of warehouse employees in a variable pay calculation system

Employees	Number of items	Quantity	Fixed part of pay	Variable part of pay ((item+quantity)/100 *0.15EUR)	Total pay
Warehouse worker 1	8,131	171,692	250	269	519
Warehouse worker 2	9,511	218,611	250	342	592
Warehouse worker 3	4,981	113,646	250	178	428
Warehouse worker 4	6,462	89,051	250	143	393
Warehouse worker 5	4,971	121,467	250	189	439

Warehouse worker 6	1,150	32,469	250	51	301
Warehouse worker 7	6,848	139,302	250	219	469
Warehouse worker 8	5,514	121,645	250	191	441
Warehouse worker 9	3,614	69,787	250	110	360
Warehouse worker 10	1,895	102,839	250	157	407
Warehouse worker 11	3,003	74,308	250	116	366
Warehouse worker 12	4,154	95,795	250	150	400
Warehouse worker 13	7,577	181,472	250	283	533
Warehouse worker 14	6,633	94,743	250	152	402
Warehouse worker 15	6,860	127,576	250	201	451
Total	81,304	1,754,403	3,750	2,751	6,501

Source: Authors' calculations

As is evident from Table 2, the range of net pays now ranges from 350 - 600 EUR, making the entire system more flexible with regard to working effects achieved. In this case, the total budget for pays is even slightly lower than the fixed method of calculation.

This system of calculation definitely better suits employees with higher work performance, who are then more motivated, while workers with weaker work performance are in a less favorable position compared to earlier, fixed pay. If such employees permanently have below-average work performance, the assumption is that they will eventually leave the company while a competitive struggle among employees will lead to long-term "survival of the fittest", all of who will have similar high performance results. Ultimately, this system of calculation will lead to a situation where the same average total work input can be achieved with fewer employees. In this way, reducing the overall expenditures for fixed salaries, which is associated with a reduction in costs for health and pension insurance, at the same time reduces other expenditures related to employees costs, such as work clothes, training for occupational safety, sanitary booklets, etc. It is a mechanism with multiple benefits for a company.

4. CONCLUSION

The introduction of variable pay in warehouse logistics is not without difficulties. This is especially true for post-transition environments such as the market of Bosnia and Herzegovina, where every major change to existing working conditions is treated very critically.

If we disregard “internal” work motivation, the work motivation of employees mostly depends on their income. Considering that the total net pay in a variable calculation system is largely dependent on its variable part, the employees' attention is solely diverted on achieving the highest possible variable pay components. Since they depend on the total of picked work orders, which are measured through the categories of items and the total quantity of goods, there is a rapid decrease of motivation for other work activities. Even though other work activities such as cleaning warehouses, control inventory, loading and unloading of goods etc. are covered by the fixed part of the pay, in time, employees form a subjective feeling that these activities will be done by “someone else”. Ignoring other work activity creates negative feedback to work productivity since order picking is significantly slower in an untidy warehouse, where there is a constant increase in the number of errors in order picking.

Such a variable pay calculation system could create a negative work environment for warehouse managers, since they can often find themselves in the position of arbitrators between certain warehouse employees. The consequence of this is a possible reduction in collegiality, which represents additional negative feedback to work productivity.

No less important limitation of this case study arises out of technological limitations, since statistical effects it cannot be one measured hundred percent. The methodology of work requires work in groups, so two employees simultaneously perform order picking on one electronic device and their performance statistics is obtained through an indicator of the statistical average. Other work activities, such as operating a forklift were not recorded in this case, which requires additional subjective assessment of the time required by the Head of the warehouse. Such drawbacks can be solved with a modern Warehouse Management System (WMS). Since such systems require a huge financial investment in equipment and software, the question is raised of their justification in relatively small, post-transition markets. In this way, these markets, because of their relatively limited number of end consumers and because of their size, are condemned to technological lag in modern logistics and distribution chains.

To overcome the above technological and organizational constraints when introducing a variable pay calculation system, unified attitude of top management i.e. management of the company is very helpful. The absence of a pre-defined position on the introduction of a variable pay system can lead to additional difficulties in solving arbitrary situation.

Finally, the paper contributes to the existing body of literature on variable pay schemes by providing insight into a FMCG company in Bosnia and Herzegovina. The findings presented in the paper have important practical implications and may be useful to managers and various other subjects involved in designing pay and reward

structures. However, there is a need for more research on variable pay schemes. To this end, greater emphasis should also be placed on job satisfaction, employees' motivation and pay satisfaction.

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