

Empirical Study of Antecedent Work Efficiency in Upstream Oil and Gas Industry of International Company

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Abstract:

International oil and gas companies certainly have high work efficiency, including those operating in Indonesia's oil and gas upstream industries, like Chevron, ConocoPhillips, and Exxon, which are the object of this study. This study will extend to which the work motivation and innovative behavior of workers on work efficiency through work professionalism. With 107 respondents had their answers, inconclusive that work professionalism, besides direct influence, has the role of enhancing the mediation effect of work motivation and innovative behavior on work efficiency. But, there is not a significant direct affect innovative behavior on work efficiency. From these findings indicates professional levels of any working individual in the upstream oil and gas industries are sufficient to drive its efficiency. However, the question arises as to why innovative behavior does not directly affect work efficiency. Yet, the upstream oil and gas industries are desperately in need of high-tech innovation. As exploration and exploitation of upstream industries face increasingly difficult challenges, and that's the kind of workspace that gets farther and farther away from shore, especially in the deep sea. The high technology to foresee adversity has been set in advance, therefore local workers don't get the challenge of innovation. Local workers have the motivation for work and highly professional work, as working for International oil and gas companies is earning higher. The implication of this finding is how management improve the innovative behavior of local workers to more effect on their work efficiency.

Keywords: Work Efficiency, Work Professionalism, Work Motivation, Innovative Behavior.

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INTRODUCTION

In a company's operations the efficiency of work done to the maximum of all workers will improve company performance [1]. For that, every worker must have attitude and behavior to work professionally according to the competence possessed [2], motivated by high work motivation to be able to overcome difficulties encountered [3]. Other than that, every worker required to have innovative behavior to be able to adapt to changes in the environment [4]. Upstream oil and gas industry is operating in areas that are remote, difficult, and have a high risk of failure and loss in the exploration and exploitation processes, so that requiring every worker to work efficiently. Each worker in his position and according to their respective roles and functions, is the company's human resources that

operate the company based on the chosen strategy. In order to work efficiently every worker must have professional work supported by knowledge and skills related to his work, and must have high work motivation to always be enthusiastic during work to achieve work goals and achieve various work achievements. In addition, a worker is currently required to have innovative behavior that is conducive to being able to adapt to changes in the environment. Every worker as part of the company's assets is required to also think and act how to work more efficiently, in order to increase work productivity. Ike et al, [5] conclude that National Oil Companies (NOCs) that participate in OPEC have lower efficiency compared to International Oil Companies (IOCs), because management of IOCs manages the revenue and profits for the

sustainability and development of the company. Focuses on internal competence in upstream petroleum industries companies, this paper wants to know how far the influence of work motivation, and innovative behavior toward work professionalism in improving work efficiency. Organizational competencies denoted managerial and organizational processes or patterns of current practice and learning, through which firm-specific assets are assembled in integrated clusters spanning individuals and groups [6].

1. Problem Formulation

How far the influence of work motivation, and innovative behavior to improve work efficiency directly and through work professionalism?

2. Objective and benefits

The objectives of this study is to investigate the influence of work professionalism on work efficiency directly, and its role to mediation of the influence work motivation, and innovative behavior on work efficiency. The benefits of this study are: expected to motivate all stakeholders in the upstream oil and gas industry, to increase work efficiency.

LITERATURE REVIEW

1. Theoretical study.

1.1 Work Efficiency.

Efficiency define as the measure of effectiveness that produces the minimum waste of time, effort, and skill [7]. Its means that the time available must be used effectively, the effort made as needed for an activity, and with the existing skills are used to achieve goals as maximum results. To improve efficiency a company must empower its resources more effectively, as well as implement appropriate strategies, in order to encourage growth and win competition [8]. Chang and Chiu [9], concluded in a firm that in order for workers to work efficiently, commitment and a desire to learn and practice must be built. Makadok et al [10], assert that included company resources are all assets, organizational processes, abilities, special characteristics, knowledge, information owned, and all things controlled by the company, so that it becomes a means and infrastructure to achieve goals. In a company, the individual worker is an element of a system consisting of various parts, which act and function according to their respective competencies to produce a specified product.

1.2 Work Professionalism

Professionalism is a form of profession that reflects attitudes and behaviors that are carried out conceptually, consistently, according to organizational goals, based on applicable codes of ethics, to fulfill work responsibilities or customers desires [2]. Thus professionalism contains three main components namely attitude, behavior, and intellectual

as well as skills. Attitude is a tendency, feelings, emotions, and also thoughts that can realize the ideas of the profession and service as the basis for professional behavior. Professional behavior is related to physical activities and interactions in the workplace, according to the procedures and competences. Evets [11], concluded that work professionalism can be used to differentiate works tasks, from one type of work to another. Work professionalism can also be used to control the quality of work, both technically and its work performance. Work professionalism becomes an instrument of job change, social control in the macro, medium, or micro strata, a very different range of jobs, related to individual and organizations.

1.3 Work Motivation.

Jordan et al,[3] propose the concept of work motivation with a non-cognitive ability approach, which is to impulse generated by long term goals, and by the task strategy set. Individual workers are encouraged to work passionately because of the long-term goals and strategies of the organization. Company goals and strategies becomes the direction and work guidelines for workers to achieve performance, so that they work efficiently. Uteubayev&Kurmanov[12] conveyed that work motivation was formed and influenced by all socio-economic factors, in which there are subsystems that are independent of various problems. Socio-economic is one of the factors that influence work motivation of workers in oil and gas companies in Kazakhstan, especially remuneration. Increasing work motivation and providing appropriate compensation can maintain worker retention, so that it can remain in the company [13]. Meanwhile, work motivation is described as something that encourages people's morale to motivate him or her in the working place. The encouragement is the driving force which enables people to enhance the performance and the quality of behavior. In addition, motivation has three crucial elements, namely; (a) *direction of behavior* which emphasize the worker's behavior in the working place; (b) *level of effort* which underline the worker's effort in order to achieve the target; and (c) *level of persistence* which see how the worker when handling the challenges in the working place[14].

1.4 Innovative Behavior

Innovation plays an important role in the transformation of companies and markets. Innovation requires critical behaviors towards the environment, skills for observing, building networks, and conducting experiments. This requires thinking in associational cognitive skills to synthesize novelty inputs [4]. Innovation in the broadest sense includes new processes, new improvements, new products, in various forms of the company's efficiency tendency to expand the market [15]. Scott [16] concluded that leadership, innovation support, management experiments, career paths, and problem solving style greatly influence individual behavior in innovation.

2. Hypothesis Development.

- **H1:** Work Professionalism has an effect on Work Efficiency.
- **H2:** Work Motivation has an effect on Work Efficiency.
- **H3:** Work Motivation has an effect on Work Efficiency through Work Professionalism.
- **H4:** Innovative Behavior has an effect on Work Efficiency.
- **H5:** Innovative Behavior has an effect on Work Efficiency through Work Professionalism.

3. Framework

From all description and hypotheses can build the following framework:

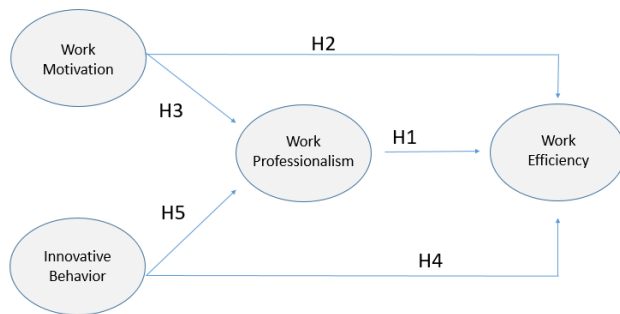


Figure 1: Research Model

RESEARCH METHODOLOGY

1. Operationalization of Variables

1.1 Work Efficiency

Work Efficiency is the achievement of maximum work results with infrastructure, as well as specified time standards, so that workers feel satisfied with the results of their work, and feel sufficient for the compensation received from the done.

1.2 Work Professionalism

Work Professionalism is the attitude and behavior towards work competently, reflecting an understanding of the procedures and work processes that apply, and carry out according to the expertise and skills possessed, so as to achieve maximum work efficiency in achieving the specified work results.

1.3 Work Motivation.

Work Motivation is the encouragement of a worker, who is influenced by environmental factors, so willing to work diligently in accordance with their field of duty in a discipline and dare to face various difficulties.

1.4 Innovative Behavior

Innovative Behavior is the behavior of individual workers in recognizing and solving problems, building new ideas and looking for solutions, to produce certain prototypes that can be applied and mass produced, can be developed and disseminated, thus further encouraging productivity.

Data Collection Techniques

Data was collected using questionnaires and online techniques, 101 respondents collected answering statements, consists of: 50% are male, and 50% are female. The ranging age from 25-30 years old: 29,29%; from 30-40: 43,91%; from 40-50:17,59%; from 50-60: 9,19%. Education background are bachelor level 72,45%; and master level 27,55%. They have some work experience ranging from < 0-5 21,25%, 5-10 years 47,45%, 10-15 years 16,15%, and >15 years 15,15%.

2. Sampling Techniques. Sample selection techniques using proportional stratified random sampling, so the sample can represent a dispersed population and consists of several strata, proportionally [17]. In addition, stratified sampling was chosen because in the oil and gas companies there are many variations and differences in their organizations.

RESULT AND DISCUSSION

The collected data was analyzed and calculated using Partial Least Square-Structural Equational Modeling (PLS-SEM), so that it can show the relationship and influence between variables in accordance with the research model [18], besides this research is directed to make prediction and build theories [19], emphasis on predicting the effect of work professionalism, work motivation, and innovative behavior variables on work efficiency through individual dynamic capabilities.

1. Result

According to PLS SEM procedure, after the construct reliability score is more than 0.70, and after passing tests of convergent and discriminant validity, so that validity meets requirements, then bootstrapping is performed. Bootstrapping results are as follows:

Table 1: Total Effects

		Original Sample	Sample Mean	Standard D	T Statistic	P Value
IB	→WE	0.065	0.069	0.114	0.569	0.569
IB	→WP	0.320	0.319	0.075	4.284	0.000
WM	→WE	0.553	0.557	0.096	5.769	0.000
WM	→WP	0.596	0.601	0.079	7.498	0.000
WP	→WE	0.480	0.483	0.131	3.663	0.000

The Results of the Analysis on the Research Model

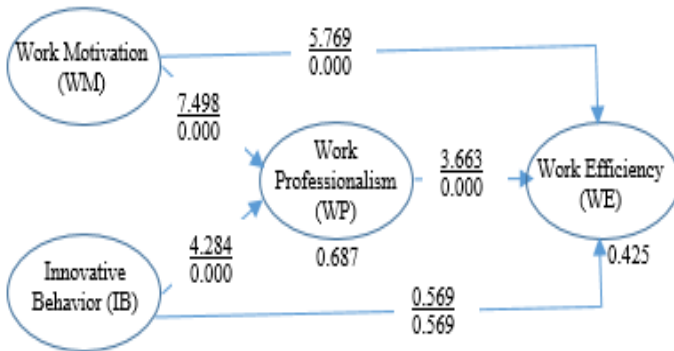


Figure 2: Results of the Analysis

2. Discussion

H1: Work Professionalism (WP) has an effect on Work Efficiency (WE).

The result of calculation shows that probability the effect of WP on WE equal to 0.000 (P-value < 0.05), so that there is a probability effect WP on WE. The significance level of the probability the effect of WP on WE can be seen from the statistical T-value that is 3.663 (T-value > 1.7), so that there is a significance effect WP on WE. Thus hypothesis one (H1) is proven, that Work Professionalism has an influence on Work Efficiency.

This is in accordance with the background of the workers who are mostly educated with a degree and have quite a long experience, namely 0 to 5 years of experiences 21.25%, five to 10 years 47.45%, and above ten years 31.30%. With this capital guarantees that its Work Professionals are high enough to increase Work Efficiency.

H2: Work Motivation (WM) has an effect on Work Efficiency (WE).

The probability effect of WM on WE equal to 0.000 (P-value < 0.05), so that there is a probability effect WM on WE. The T-value of WM on WE equal to 5.769 (T-value < 1.7), it means that there is a significance effect WM on WE. Thus second hypothesis (H2) is proven, that Work Motivation has an influence on Work Efficiency.

This result proves that Work Motivation of workers in the international oil and gas company, has a significance effect on Work Efficiency. This might be due to the satisfied with the current conditions, both in terms of income and work careers at their current company.

H3: Work Motivation (WM) has an effect on Work Efficiency (WE) through Work Professionalism (WP).

The probability effect of WM on WP equal 0.000 (P-value < 0.05), so that there is a probability effect Work Motivation on Work Professionalism. The T-value of WM

on WP equal to 7.498 (T-value > 1.7), it means that there is a significance effect WM on WP. Previously it has been proven that WM and WP have an influence on WE, thus third hypothesis (H3) is proven, that Work Motivation has an insignificant influence on Work Efficiency, through Work Professionalism.

This result proves that Work Motivation of workers in upstream industry of the international oil and gas company, has a significance effect on Work Efficiency, both directly and through Work Professionalism. This means that the high Work Motivation of workers in the upstream industry of the international oil and gas companies, will encourage the effectiveness of his Work Professionalism in improving Work Efficiency.

H4: Innovative Behavior (IB) has an effect on Work Efficiency (WE).

The probability effect of IB on WE equal to 0.569 (P-value > 0.05), so that there is no a significance probability effect IB on WE. The T-value of IB on WE equal to 0.569 (T-value < 1.7), it means that there is no a significance effect IB on WE. Thus fourth hypothesis (H4) is reject, that Innovative Behavior has no influence on Work Efficiency.

H5: Innovative Behavior (IB) has an effect on Work Efficiency (WE) through Work Professionalism (WP).

The probability effect of IB on WP equal to 0.000 (P-value < 0.050), so that there is a significance probability effect IB on WP. The T-value of IB on WE equal to 4.284 (T-value > 1.79, it means that there is significance effect IB on WP. Previously it has been proven that WP have an influence on WE, but IB has no influence on WE. Thus fifth hypothesis (H5) is not proven, that IB has no influence on WE, through WP. Thus fifth hypothesis (H5) is not proven, that Innovative Behavior (IB) has no influence on Work Efficiency (WE), through Work Professionalism (WP).

It is evident that the Innovative Behavior of worker in International Oil and Gas Companies in Indonesia, could not drive improvements in Work Efficiency. This is possible because in the upstream oil and gas industry in the international companies technically and system works efficiently.

CONCLUSIONS

This study proves that Work Motivation influence efforts to increase Work Efficiency, directly and indirectly through Work Professionalism. Work Professionalism itself has significant effect in increasing Work Efficiency, while Innovative Behavior does not significantly affect Work Efficiency.

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