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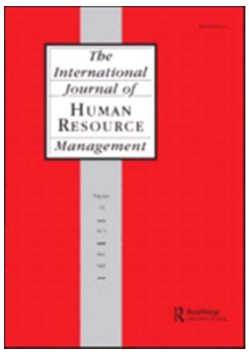

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Abstract

The past two decades have seen many countries corporatising their public hospitals with the expectation that this reform will improve hospitals' performance. In doing so, the hospital cannot neglect the importance of employees' commitment as hospitals are labour-intensive and their performance is dependent upon employees' commitment. However, evidence from the health sector in general shows that reform can bring unintended consequences for the employees such as higher stress levels due to higher workload. Corporatisation as one of the common reform in the hospital sector is certainly not immune from this threat. To examine the consequences of corporatisation on organisational commitment, we conducted a study in 54 public hospitals in East Java, Indonesia. We applied a multilevel structural equation model to survey data on 1282 workers in those hospitals. Analysis suggests that the longer a hospital has been corporatised, the greater the organisational commitment of its employees. Incentives improve organisational commitment, while training and resource availability have no association with it. Employees in larger hospitals are more committed than those in smaller hospitals. Our findings shed light on the debate on corporatisation as a lever for improving organisational commitment in public hospitals in developing countries.

Keywords: Corporatisation, organisational commitment, hospital, Indonesia, multilevel SEM.

1 Introduction

Organisational commitment plays an important role in the success or failure of hospitals as hospitals are labour-intensive and their performance is dependent upon highly qualified and committed employees. Employees with high levels of commitment are loyal and productive:

they use time effectively (Meyer et al., 1993), have lower absence rates (Blau, 1986; Luchak and Gellatly, 2007; Somers, 1997) and have a strong desire to remain in the organisation (Lum et al., 1998; Mosadeghrad et al., 2008, Wagner, 2007). The design of corporatisation in hospital sector thus often focuses on raising employees' commitment through better incentive schemes and working environments (Preker and Harding, 2003).

For those wishing to improve employees' commitment, however, reform in healthcare sector, including corporatisation, may prove to be a two-edged sword, creating both a challenge and a threat to the employees. Franco et al. (2002) revealed that healthcare reform improves health worker motivation through identifying a clearer organisational mission, giving higher autonomy (especially in human resource management), creating a forum for employee feedback and increasing the availability of resources. In contrast, Lethbridge (2004) found that health workers in developing countries and countries in transition experienced higher stress levels and job dissatisfaction; these health workers tend to move to the private sector after experiencing healthcare reform in the public sector. Further research is clearly needed to explain the consequences of hospital reform on employees, yet little attention has been paid to this topic. While a few studies have explored the determinants of organisational commitment in hospitals (Ghasemi and Keshavarzi, 2014; Tsai, 2014), no study has yet examined those determinants in hospitals in the process of undergoing corporatisation.

This study aims to address the gap by examining the consequences of corporatisation on organisational commitment in public hospitals in Indonesia. In 2004 Indonesia transformed public hospitals from budgetary units into corporate units, or Badan Layanan Umum ('Public Service Agencies'). These corporatised hospitals exercise greater authority in several management aspects; for example, in human resource management, they are able to hire their

own employees. The major aim of corporatisation is to improve efficiency in the provision of hospital services. As yet, however, no study has examined the consequences of corporatisation on the employees; clearly, making an assessment of how corporatisation affects organisational commitment is of immediate importance. To assess this, we have used primary data from public hospitals in East Java Province.

This study contributes to the existing literature in a number of ways. Firstly, this study is one of the first to use data from a large number of public hospitals (54 hospitals) within a province. Public hospitals in Indonesia are grouped into four classes (A, B, C, and D) according to medical specialty, technological competencies, and number of beds (Rokx et al., 2009). The biggest hospitals are Class A hospitals, having a minimum of 400 beds and highly specialised services, while the smallest hospitals are Class D hospitals, with a minimum of 50 beds and any two of the four basic specialist services (surgery, paediatric, internal medicine and obstetric gynaecology) (Ministry of Health, 2010). The sample hospitals in this study covered all four classes and thus represent all public hospitals in Indonesia.

Secondly, this study analyses the organisational commitment of employees in both corporatised and non-corporatised hospitals. This reform has not been automatic: it occurs only when the hospitals meet government requirements, such as the availability of unit cost calculation, financial reports and business plans. In an 8 year-period, the government gradually reformed 49 hospitals out of the 54 in our sample (Figure 1). The fact that the hospitals were corporatised at different points enables us to examine the effect of length of corporatisation time on the organisational commitment of employees.

(Figure 1 is about here)

Finally, this study uses a multilevel structural equation model (multilevel SEM) appropriate for simultaneous analysis of hospitals and employees located in various hospitals with both

units of analysis forming a nested or two-level structure. Previously, studies which identify the determinants of organisational commitment in health sector have been mostly based on individual or employee analysis (Lum et al., 1998; Tsai, 2014). Yet organisational commitment is influenced not only by individual characteristics but also by organisational ones, particularly those in a corporatised organisation. It is thus relevant to analyse the context within which employees are located by acknowledging the nested structure of hospitals and their employees. Multilevel SEM analysis takes into account the clustering of employees within their respective hospitals by separating employee variance from hospital variance in organisational commitment.

The remainder of this paper continues in the following manner: Firstly, we briefly propose the structural and multilevel model. We then describe the constructs, the latent concepts and corporatisation in public hospitals in Indonesia as the setting of this study. The empirical analysis proceeds by presenting the data, followed by the results of both descriptive and multilevel SEM analysis, carefully laying out how various constructs relate to different concepts and the structural relationships among them. Finally, we discuss the results and conclude with suggestions for further work.

2 The proposed model in brief

Following the existing literature, we take into account determinants at both the individual and organisational levels (Figure 2). At the individual level, we include work values and job satisfaction as the antecedents of organisational commitment (Cheung and Scherling, 1999; Elizur and Koslowsky, 2001; Knoop, 1994). As work values are associated with job satisfaction (Cheung and Scherling, 1999; Knoop, 1994), we also incorporate this relationship into our model. Subsequently, the model examines the structural relationships among work values, job satisfaction, and organisational commitment. At the organisational level, we use

hospital characteristics as the predictors of organisational commitment. Hospital characteristics include the length of time the hospital has been reformed, hospital class, completeness of facility, availability of incentives, and the proportion of nurses having received training in the last 12 months. We hypothesize that these hospital characteristics influence the organisational commitment, as discussed in the following section.

(Figure 2 is about here)

3 Theoretical overview of constructs

3.1 Organisational commitment

In the literature, organisational commitment is considered as a better measurement of work-related attitudes than other measurement, such as job satisfaction and job involvement, when considering employees' willingness to stay in the organisation. Crewson (1997) stated that 'it has been operationalised as a combination of three distinct factors: a strong belief and acceptance of the organization's goal and values, eagerness to work hard for the organization, and a desire to remain a member of the organization' (p.507). Another definition that emphasises the link between organisational commitment and employees' willingness to stay came from Meyer and Allen (1997), who argued that organisational commitment is a psychological state linking the employee to his or her organisation, a state that has implications for an employee's decision to stay in the organisation. Despite this obvious link, studies have also revealed that organisational commitment contributes to other work-related attitudes, such as high motivation, high job involvement, low stress, and high job satisfaction (Mathieu and Zajac, 1990), adding to its importance in improving an organisation's performance.

In addition, organisational commitment has been examined as a potential antecedent of absenteeism. Blau (1986) found that nurses with higher levels of organisational commitment and job involvement show less absenteeism that those with lower levels of organisational commitment and job involvement. Supporting this evidence, studies by Luchak and Gellatly (2007) and Somers (1995), also in health sector, revealed that organisational commitment is a strong predictor of absenteeism.

The demonstrated links between organisational commitment and both absenteeism and employees turnover render this specific measurement of work-related attitudes a central concept in the study of work-related attitudes in the hospital sector (Ghasemi and Keshavarzi, 2014; Loke, 2001; Mosadeghrad et al., 2008; Pearson and Chong, 1997). Hospitals' employees are mostly highly skilled, and their presence is crucial as they provide specific and often advanced curative health services. Reducing absenteeism in this specific sector thus receives substantial attention from both policy-makers and researchers. Furthermore, reducing employee turnover is particularly crucial for hospitals as these highly skilled employees are difficult to replace. Considering the above, it becomes clear that an understanding of organisational commitment and its determinants, especially in the hospital sector, is of prime importance.

Meyer and Allen (1991), in their three-component model of organisational commitment, differentiated this specific commitment into three components: affective, continuance and normative commitment. Affective commitment reflects employees' emotional connection with their organisation, while continuance commitment refers to employees' awareness of the costs associated with leaving the organisation. Finally, normative commitment refers to employees' feelings of obligation to remain in their organisation. Employees with a strong affective commitment are valuable for organisations as they stay in their organisations because they want to do so, whereas those with a strong continuance commitment feel that

they need to remain with the organisation and those whose primary link to organisation are based on normative commitment remain because they ought to do so. Supporting this theory, a study in Western European by Evanschitzky et al. (2006) found that affective commitment has a stronger effect on loyalty than continuance commitment. Given this importance of affective commitment for the organisations, scholars have studied this component of organisational commitment and examined its antecedents and consequences (Cho et al., 2006; Rhoades et al., 2001; Vandenberghe et al., 2004). Following these studies, our study uses affective commitment measure and examines how corporatisation affects this component of commitment.

3.2 Work values

In general, values refer to desirable goals or behaviours applied as guiding principles in people's lives (Schwartz and Bardi, 2001). While general values may refer to any principles, work values specifically focus on principles held in the workplace, for example the importance of money or of working with people. Work values differ enormously among employees and are strong antecedents of organisational commitment (Elizur and Koslowsky, 2001; Putti et al., 1989) and job satisfaction (Cheung and Scherling, 1999; Knoop, 1994). Although it is limited, there is some empirical evidence linking work values and organisational commitment (Elizur and Koslowsky, 2001; Putti et al., 1989). Elizur and Koslowsky (2001), for example, found that work values, especially cognitive ones, are positively associated with organisational commitment. Similar findings were shown in Asia when Putti et al. (1989) examined the relationship between work values and organisational commitment using data of employees of an electronic corporation in Singapore. They differentiated work values into intrinsic and extrinsic work values. Intrinsic work values represent how employees value immaterial aspects of their jobs that allow for self-expression such as job involvement, while extrinsic work values figure how they value material work

aspect such as salary. They revealed that intrinsic work values relate more closely to organisational commitment compare to the extrinsic ones. In accordance with the evidence from previous studies, we hypothesised that:

Hypothesis 1: Work values are positively related to organisational commitment.

3.3 Job satisfaction

Job satisfaction is broadly defined as all of the feelings that an employee has concerning his/her job and its various aspects such as pay, opportunities for personal growth, and appreciation (Spector, 1997). Jos satisfaction is often measured using facet approach to find out which parts of the job satisfied or dissatisfied the employees. This approach can be very useful for organisations that wish to identify and to improve areas of dissatisfaction. Job satisfaction among healthcare employees has received increasing attention from researchers in the past two decades (Antoniou et al., 2003; Lu et al., 2006; Piko, 2006) as these employees usually show lower levels of job satisfaction than employees in other types of organisations (Glisson and Durick, 1988). Low levels of satisfaction often bring on undesired consequences such as high turnover among nurses, nursing shortages, and behavioural and health implications (Zangaro and Soeken, 2007). Satisfied employees are more likely than disgruntled employees to deliver good service, therefore providing utility directly to the patients (Sharma and Goyal, 2013).

Few studies have examined the relationship between work values and job satisfaction, but those few have reported relatively strong correlations between the two. A study in secondary schools in Canada, for example, revealed that work values including achievement, use of abilities, pride in the organisation, and meaningfulness of work, improve job satisfaction. Focusing in Asia, little is known in this region about these issues. Cheung and Scherling (1999) provided similar evidence using data from Taiwan and found that employees placed

higher value on the task and team dimensions which lead to greater job satisfaction. However, Cheung and Scherling (1999) also revealed that placing value on the reward dimension had a negative association with employees' satisfaction regarding reward. The researchers argued that the employees expected higher rewards as they received low pay due to the inactivity of the labour union; in addition employees valued money more than they had in the past, following protracted exposure to Western culture.

A positive association between job satisfaction and organisational commitment has been consistently confirmed in the literature (Al-Aameri, 2000; Knoop, 1995; Markovits et al., 2010; Wu and Norman, 2006). However, this association is complex and it is not clear whether satisfaction influences organisational commitment or vice versa. The dominant view in the literature supports the causal precedence of job satisfaction over organisational commitment (Gaertner, 1999; Landsman, 1999; Mueller et al., 1994). A recent study in Lebanon supported this view, finding that job satisfaction is a reliable predictor of organisational commitment (Dirani and Kuchinke, 2011). In contrast, several studies have found that a high level of organisational commitment leads to job satisfaction (Ahmad et al., 2014, Vandenberg and Lance, 1992). The theoretical and conceptual framework of the present study follows the dominant view that job satisfaction is a predictor of organisational commitment. We thus propose the following hypothesis:

Hypothesis 2: Job satisfaction mediates the relationship between work values and organisational commitment: Work values positively relate to job satisfaction and job satisfaction positively relates to organisational commitment.

3.4 Corporatisation in hospital sector

Public hospitals tend to have serious weaknesses in the provision of services, including inefficiency, low patient satisfaction rates, and inequity (Jakab et al., 2002). It has often been

suggested that these problems are grounded in bureaucratic rigidity, lack of management control, and inappropriate incentives scheme (Preker and Harding, 2003). Whatever the specific reasons, policymakers have been led to reform the sector to improve these hospitals' performance. One specific reform widely applied in hospital sector is corporatisation, in which central government gives higher degree of authority to hospital manager. Due to the significance of employees' commitment and satisfaction as a factor of successful corporatisation, hospital managers may use the authority to enhance these elements through applying employees-focused strategies. The oftenly used strategies in hospitals undergoing corporatisation are providing new incentive scheme, training, and adequate equipment (Preker and Harding, 2003). Incentive is an important determinant of an exchange-based commitment because it defines, in monetary terms, the implicit contract that the employee will make efforts on behalf of the organisation in return for fair and equitable compensation (Robertson and Cooper, 2001). When individuals are satisfied with their pay, they are more likely to regard the organisation as having met the terms of the contract and their feelings of attachment to the organisation may be increased. Conversely, when they are dissatisfied, they may regard the contract as having been violated and their feelings of attachment may be lessened. Furthermore, low take-home pay may lead to overwork due to the necessity of taking a second job in order to obtain additional income (Mutizwa-Mangiza, 1998).

Another frequent employees-focused strategy in hospital corporatisation is providing training. Training has been widely discussed as an organisational commitment lever (Bartlett, 2001; Bartlett and Kang, 2004; Newman et al., 2011). Training can be aimed at advancing knowledge only, or at accompanying that knowledge with a diploma or certificate. Studies among nurses in New Zealand and the United States found that several measures of training consisting of perceived access to training, social support for training, motivation to learn, and perceived benefits of training have positive associations with organisational commitment

(Bartlett, 2001; Bartlett and Kang, 2004). Furthermore, training enables workers to learn new skills and to cope better with the demands of workplace change. Health professionals in Tanzania stated that specific training would help them to handle certain patients better (Manongi et al., 2006).

The strategy to improve employees' attitudes, especially in developing countries, also included providing sufficient equipment and supplies as lack of essential these important ingredients for service delivery is a considerable problem in these countries (Agyepong et al., 2004; Mathauer and Imhoff; 2006; Mbindyo et al., 2009a). This may affect the commitment of health workers to the point at which they become unable to provide appropriate healthcare services despite possessing sufficient skills. Manongi et al. (2006), for example, found that a lack of laboratory facilities can force health professionals to treat patients by trial and error. The employees surveyed stated that they felt discouraged because of working in these circumstances. A study in Benin and Kenya also highlighted the importance of the availability of health facilities to improve health workers' willingness to perform (Mathauer and Imhoff, 2006). It revealed that the main reason provided by these workers for resigning from their jobs in the public sector was the lack of equipment and supplies. Despite these efforts, several studies have revealed that dissatisfaction and increased levels of work stress appear after reform (Gillespie et al., 2001; Korunka et al., 2003; Noblet and Rodwell, 2008). Identifying the determinants of organisational commitment at the organisational level has thus become important for designing suitable corporatisation. However, there is a lack of information regarding these determinants and how they are affected by reform. Therefore, we hypothesised that:

Hypothesis 3a: Corporatisation is positively related to organisational commitment.

Hypothesis 3b: Financial incentive is positively related to organisational commitment.

Hypothesis 3c: Training is positively related to organisational commitment.

Hypothesis 3d: Resource availability is positively related to organisational commitment.

4 Indonesia: health system under pressure

Indonesia, the fourth-largest country in the world, is entering a period of demographic, nutritional and epidemiological transitions, putting higher pressure on its health system. In ten years Indonesia is expected to have a population of around 305 million and the number of elderly will increase significantly from 8% in 2010 to 16% in 2025 (United Nations Population Fund, 2013). This demographic change, combined with the widespread presence of obesity in Indonesia, will likely increase the prevalence of non-communicable diseases, such as cardiovascular diseases, cancer, and diabetes (Rokx et al., 2010; World Bank, 2008). Cardiovascular diseases are one of the main causes of death in Indonesia, accounting for 31.9% of all deaths in the country and 11.2% of all deaths in hospitals (Ministry of Health, 2008). Moreover, more than 60% of the need for cardiovascular care goes unmet (Maharani and Tampubolon, 2014). Hospitals as the main providers of advanced curative healthcare services, especially for these diseases, will thus be called upon to provide additional, good quality services as future demand is projected to increase.

However, improving the quality of hospital services is not a simple task for this country as it continues to face challenges due to unequal distribution of health professionals (Meliala et al., 2013; Rokx et al., 2009; World Bank, 2010) as well as high absenteeism among them (Chaudhury et al., 2006). For instance, in 2007 the physician density in urban areas was six times greater than that in rural areas (36 versus 6 physicians for every 100,000 population) (World Bank, 2010). Similar empirical evidence was provided by Meliala et al. (2013), who enumerated the number of medical specialists in all provinces in Indonesia and revealed that the specialist density in the capital was almost twenty times higher than that in East Nusa

Tenggara Province in eastern Indonesia (31.0 versus 1.61 specialists per 100,000 population). This inequality has become even more serious due to high absenteeism among health workers. A study measuring health worker absenteeism in the public sector in Indonesia found that 40% of these workers were absent at the time of a random visit during the health centers' working hours (Chaudhury et al., 2006). Physicians were found to have a higher absenteeism rate than other types of health workers. This problem was most acute in public hospitals, where very few specialists delivered the required hours of work; in fact, most spent only one or two hours per week. No health service can be delivered without the presence of the providers; resolving these problems is thus urgent (Meliala et al., 2013).

Dual practice, which is very common among health workers in Indonesia, is mentioned as one of the reasons for their high level of absenteeism. Health workers, especially physicians, are permitted to undertake private work while employed by government. Bir and Eggleston (2003) reported that 80% of health workers in Indonesia engage in dual practice. A very recent overview of Indonesia's health sector cites research estimating that 70% of publicly employed physicians and 93% of midwives in health centres undertake legally permitted private practice (World Bank, 2010). The dual practice also influences the health workers in public hospitals. All public sector specialists, in fact, engage in dual practice (Meliala et al., 2013). Health workers are less committed to the public than to the private sector as the bulk of their income (66-81%) comes from the private sector.

As organisational commitment is an important predictor of absenteeism (Blau, 1986; Luchak and Gellatly, 2007; Somers, 1995), looking at organisational commitment among hospital employees in Indonesia is important. In 2004 the Indonesian government launched a reform for public organisations, including public hospitals. Under the reform, public hospitals meeting certain criteria were formally transformed into corporatised units ('Badan Layanan Umum') (Government of Indonesia, 2005). Hospitals were eligible if they can provide unit

cost calculations, financial reports and a business plan. Support from hospital managers and local governments was also required.

Reformed hospitals have broader leeway to make decisions on finance and inputs than non-reformed hospitals. Managers have significantly greater authority over the following functional areas: setting hospital budget, utilising revenue (both from subsidy and operational), initiating long-term investment programmes, contracting with private sector services and investors, procuring debt and accounts receivable, and having their own permanent (non-civil servant) staff. Although launching new incentive scheme and providing better work environment is not an obligation, reformed hospitals have a better chance to apply employees-focused strategies as they have higher decision rights than their non-reformed counterparts. To assess the effect of that reform on employees' commitment, we have used primary data from public hospitals in East Java Province.

In the next section we describe the data, measures and statistical methods used to evaluate the consequences of hospital reform on organisational commitment in Indonesia.

5 Data and methods

5.1 Data

We collected the data from May through September 2013 in 38 districts in East Java Province. This province is the second most populous in Indonesia with a total population of 36,895,571 inhabitants (in 2007) living in a total area of 47,130 square km and served by 55 public hospitals (see Figure 1). We asked the willingness of these hospitals to participate in our study and only one hospital refused to participate, the reason being that it was dealing with the accreditation process at the same time. We did manage to secure the participation of all other hospitals in that district. The sample hospitals belonged to different classes (A, B, C and

D) and had different statuses (corporatised and non-corporatised) to represent all public hospitals in Indonesia. The participants in this study consisted of hospital management representatives and employees. Hospital representatives provided data at the hospital level by filling questionnaires on the characteristics of the hospital, including hospital class, status and the availability of certain management practices. Employees provided data at the individual level by responding to the employee questionnaire, which contained questions on their jobs and workplaces, their views on working at the hospital, representation at work, and, finally, about their motivation to work. The questionnaires were written in Indonesian language. We recruited a minimum of 17 employees in each hospital to ensure a sufficient sample size for this research (McNabb, 2002).

(Figure 3 is about here)

(Table 1 is about here)

At the individual level, our sample consists of 1,282 employees. The majority of the sample was male (61%) and aged 41-50 years old (40%). Eighty-two per cent of respondents held diplomas or bachelor degrees, while 9% of respondents had graduated from a master programme or higher. The respondents mostly consisted of nurses/midwives (56%), followed by administrators (33%) and physicians (9%), which is a common composition in hospitals in Indonesia; physicians are still rare in this country. Most respondents had worked in hospitals for 10 years or more (58%) and only 6% of them had worked in a hospital for less than 2 years.

With regard to hospital level data, the bulk of the hospitals surveyed (88%) had already been reformed into corporatised units by 2013. Almost half of the hospitals were Class B hospitals (48%), followed in number by Class C hospitals (37%). In terms of hospital type, the majority of hospitals surveyed were general hospitals (88%). Only six of the sampled

hospitals were specific hospitals: three hospitals for lung diseases, two hospitals for leprosy, and one hospital for mental health.

Corporatisation provides a wider opportunity for hospital managers to apply strategies focused on the employees, for example, such incentives as awarding pay for performance and allocation of more budget for training and providing better equipment. However, not all corporatised hospitals take the opportunity and benefit from it. Only a third of the hospitals studied provided a pay for performance incentive scheme for their employees, and less than a quarter of them had trained more than 60% of their nurses and midwives in the preceding 12 months. The availability of facilities in reformed hospitals shows better performance with 85% of these hospitals providing more than 50% of required equipment. Interestingly, the non-corporatised hospitals seem to adopt the private management style, and the availability of equipment, incentive and training programmes in these hospitals is not significantly different from those in corporatised hospitals. Eighty per cent of non-corporatised hospitals have more than 50% of the required equipment, while 20% of them offered incentives based on performance and had trained more than 60% of their nurses and midwives in the preceding 12 months. These circumstances allow us to examine the effect of these strategies, as well as that of corporatisation, on organisational commitment.

5.2 Measures

Work values

In determining the work values of the employees, we followed Franco et al. (2004) in a study carried out in the hospital sector in developing countries. The questionnaire contains eight items to measure work values. Respondents rated these items on a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. To identify latent constructs underlying measured variables, we used exploratory factor analysis (EFA) following a

previous study by Fabrigar et al. (1999). All of the items were found to have a loading factor of more than 0.4 and thus were included in the analysis as one latent construct (Table 1). We tested the reliability of these items using Cronbach's α and found that they were reliable at 0.87 (Netemeyer et al., 2003).

Job satisfaction

We adopted eight items from the United Kingdom Workplace Employment Relations Study 2011 using a five-point response option ranging from 'strongly dissatisfied' to 'strongly satisfied' to measure job satisfaction. Employees were asked to indicate their satisfaction with eight aspects of their jobs: achievement, initiative, influence over job, skill development, training received, pay received, job security and the work itself. As with work values, we employed EFA (Fabrigar et al., 1999) to identify the latent constructs for job satisfaction; we found that all eight items were formed into two latent constructs (Table 1). We chose one main construct to represent job satisfaction in this study in order to be as parsimonious as possible and produce a more simplified index. The construct consisted of employees' satisfaction with achievement, initiative, and influence over job. These selected items were reliable at an estimated Cronbach's $\alpha = 0.70$ (Netemeyer et al., 2003).

Organisational commitment

We adapted five questions on organisational commitment from Mbindyo et al. (2009a). The questions consisted of four positively-worded questions and one negatively-worded question and were intended to measure the organisational commitment of hospital employees. Having been pilot-tested in district hospitals in Kenya, these questions were well suited for use in the hospital sector in developing countries. The Likert-scale questions were scored one to five. A score of five represented the statement 'strongly agree' for positively-worded questions, while the negative question was coded in the opposite direction with a score of five

representing 'strongly disagree'. The results of EFA in Table 1 showed that the positive questions seemed to perform better than the negative one and that they formed one latent construct. This is similar to previous findings in lower-income settings by Franco et al. (2004) and Mbindyo et al. (2009b). The Cronbach's α for these items was found to be reliable at 0.75 (Netemeyer et al., 2003).

(Table 2 is about here)

Hospital characteristics

This is the first quantitative study to examine the context of the organisational level in determining organisational commitment. We included five hospital characteristics: corporatisation, hospital size, incentives based on performance, training, and resource availability. We included the length of time in years that a hospital had been corporatised. Hospital size was coded as 1 for Class A and B hospitals and 0 for Class C and D hospitals. We created a dummy variable for incentives based on performance (1 for having incentives based on performance, 0 for not having incentives based on performance). To measure training, we coded hospitals which had trained more than 60% of their nurses and midwives in the past 12 months as 1 and hospitals which had trained less than 60% of their nurses and midwives in the same period as 0. We included nurses and midwives in this variable as they form the largest occupational group in hospitals. Finally, to measure resource availability, we coded hospitals as 1 if more than 50% of required equipment was available and 0 if they failed to provide at least 50% of the required equipment.

5.3 Methods

We analysed the data in three steps: using confirmatory factor analysis (CFA) (Netemeyer et al., 2003), a clustered structural equation model (SEM), and a multilevel SEM (Goldstein,

2003; Rabe-Hesketh and Skrondal, 2012). The CFA was used to refine the measures by obtaining reasonably error free measures for the constructs of work values, job satisfaction and organisational commitment. In the second and third steps, this research used the clustered SEM and multilevel SEM as they considered the nested structure of employees within public hospitals. Both models thus enabled us to observe the associations between the latent variables while accounting for other observed variables, such as hospital characteristics. The clustered SEM model adjusted the standard errors whereas the multilevel SEM model estimated hospitals' random intercepts (Snijders and Bosker, 2012). We provide both models in this study. The CFA and multilevel SEM models were analysed using MPlus 5.0, while the clustered SEM model was analysed using Stata 12.

6 Results

(Figure 4 is about here)

(Figure 5 is about here)

We begin by describing the patterns of work-related attitudes examined in this study (work values, job satisfaction, and organisational commitment) and other selected variables before presenting the results of the multilevel SEM predicting organisational commitment. Figure 4 compares the proportion of employees with high work-related attitudes according to gender, while Figure 5 contrasts them according to hospital status. We considered an employee to have high work-related attitudes if the mean of each of his or her work-related attitudes scores was 4 or above (as mentioned above, the scores ranged from 1 to 5). Both figures show that, overall, more than 60% of employees had high work values; however, only less than 15% of them were highly satisfied and 20% of them were highly committed to their hospitals. These low rates place even higher urgency on public hospitals to focus on their employees if they want to improve their performance. Among all the job categories, the

highly committed physicians rate was the lowest, followed by nurses/midwives and administrators. Male employees had higher work-related attitudes than their female colleagues, except for nurses/midwives, yet the proportion of satisfied male nurses/midwives was slightly lower than that of satisfied female nurses/midwives.

Focusing on hospital reform, Figure 5 shows that the percentage of physicians and nurses/midwives with high work values was higher in corporatised hospitals than in non-corporatised hospitals. However, the proportion of administrators with high work values was slightly lower in corporatised hospitals than in non-corporatised hospitals (Panel A). In contrast, only administrative employees in corporatised hospitals had higher levels of satisfaction than the rest of employees (Panel B). The proportion of committed employees was higher in corporatised hospitals than in non-corporatised hospitals in all job categories (Panel C). Conclusively, work-related attitude' pattern differences are not all due to corporatisation alone. Differences in the employee-focused strategies in each hospital might explain some of the differences in these attitudes. One way to separate this effect is to measure the consequences of corporatisation on employees' attitudes, controlling for some of the other determinants, such as resources availability and incentive. The result of this exercise is discussed next.

(Table 3 is about here)

Table 3 shows the results of the three models: CFA, multilevel SEM, and clustered SEM. Model 1 analyses 15 items forming three latent variables and includes estimations of two additional correlated error terms. Three error co-variances between work values variables are estimated: between wv6 and wv7, between wv7 and wv8, and between wv6 and wv8 (see Table 2 for description of items). As all of these pairs of items measure the same aspect of work values (work progress), correlated errors between them seem plausible. The results in

Model 1 show that all items are meaningful indicators of the latent variables, as indicated by item loadings. Factor loadings ranged from 0.34 to 0.82, with 13 from 15 direct factor-item correlations greater than 0.4. The model shows a good fit with CFI=0.965, TLI=0.956, RMSEA=0.045, and SRMR=0.042 (Iacobucci, 2010; Shevlin et al., 2000).

The second and third models analyse the structural relationships between the three latent variables, including hospital-level variables. These two models show similar factor loadings for each item, indicating the internal consistency of the latent variables. From the structural part, we can also see similar coefficients for individual-level variables in both models. Employees with higher work values and job satisfaction consistently had higher levels of commitment to their hospitals as shown in Models 2 and 3. Despite the lack of significance of the association, work values also showed a positive association with job satisfaction in both models.

(Table 4 is about here)

Focusing on hospital-level variables, a greater number of years since a hospital's corporatised is associated positively with organisational commitment. Employees in bigger hospitals (Class A and B hospitals) reported lower levels of commitment than those in smaller hospitals (Class C and D hospitals). In Model 2, incentive is shown to have a positive but insignificant relationship with organisational commitment. However, this positive relationship gains significance in Model 3. Surprisingly, training and resource availability, representing the human resources management practices to improve work-related attitudes, have a negative and insignificant correlation with organisational commitment in both Models 2 and 3. We will discuss plausible explanations for these results in the next section. The similarity of the results in Models 2 and 3 shows that the results are robust.

Assessment of fit indices indicated that the multilevel SEM (Model 2) serves the underpinning hypotheses well. The CFI and TLI are greater than 0.9 and RMSEA is lower than 0.06, indicating a good model fit. The model also shows a good fit at the individual level with SRMR (within) =0.035, yet at the higher level (hospitals) the SRMR (between) =0.224, which is higher than the conventional cut-off point of 0.08 (Cheung et al., 2006; Hsu, 2009). Table 3 also compared the CFA and multilevel SEM based on AIC and BIC. The best model fit, that is, the model that minimized the information criterion, was for the multilevel SEM. The good fit of clustered SEM is showed by the low value of the SRMR (0.037). Table 5 shows that the average intraclass correlation (ICC) for the variables is 0.03, which suggests that the hospital level, on average, explains about 3% of the variance in the variables. The ICCs are quite typical for studies using multilevel SEM (Cheung et al., 2006). Additionally, James (1982) and Muthén (1994) suggested that the typical ICC values ranged from 0.00 to 0.50.

7 Discussions

Given the importance of employees in the success of a corporatisation, many policy-makers have launched corporatisation to improve organisational commitment by means of employee-focused strategies. However, the consequences of corporatisation on organisational commitment cannot be wholly determined in advance. Shedding light on the consequences, this study examined the effects of corporatisation on organisational commitment using data from 54 public hospitals and 1282 employees in Indonesia.

Our main findings show that hospitals with longer periods of time since corporatisation are associated with improved organisational commitment among their workers. Corporatisation gives greater authority to hospital managers, allowing them to create values and to implement practices that support the employees, which in turn improves work-related attitudes,

including employees' organisational commitment. It is also evident that the hospitals continue to learn after the initial reform, and one important lesson learnt is that it is essential to find and apply practices that encourage increased commitment on the part of the employees. Employees may feel a strong attachment to an organisation if they find that their values are in accordance with the organisation's values (Meyer and Allen, 1997). The positive association of the length of time a hospital has been corporatised and organisational commitment indicates that hospitals may have built these values through a learning process involving improvement and progression over time.

Of the three variables representing human services practices (incentives, training and facilities) investigated in this study, only incentives improved organisational commitment. This result underlines the fact that incentives, in monetary terms, are the main concern of hospital employees in Indonesia, consistent with Maslow's hierarchy of needs (Maslow et al., 1970). Salary should allow a person to meet basic survival needs, including shelter, food, water, and clothing. Maslow also highlighted the importance of employees' satisfaction with their salaries. Unsatisfied employees spend their time contemplating this issue and give little attention to their work (Benson and Dundis, 2003). Our results thus can provide a potential explanation for previous evidence that specialists allocated very little time to their work in public hospitals, engaging in the dual practice so common in Indonesia (Meliala et al., 2013). This issue has inevitably become a great barrier to providing a good quality health services in Indonesia as doing so requires the presence of qualified health workers.

The low salaries of health workers in the public sector may explain the lack of an association between organisational commitment and the other human resources management practices considered in this study: training and facilities. Unsatisfied employees not only give less attention to their work, but they also lack interest in training and other development opportunities. Employees' perception of the benefit of training and their perception of access

to training improved organisational commitment more than their participation on training (Bartlett, 2001). As health workers in Indonesia commonly have dual practices, the benefits of attending training should exceed the loss of income associated with attending such training, keeping in mind the higher income received in the private sector. Otherwise, health workers may see training as a burden and decide not to participate in training.

Another plausible explanation is that the employees are not supported by the equipment needed after they join a training programme. A study in developing countries in Africa found that doctors and nurses described the effect of training as frustrating due to the lack of equipment in practice (Mathauer and Imhoff, 2006). This circumstance is most likely present in Indonesia as well given our finding that training fails to improve employees' commitment. This finding resonates with evidence from the field of education, another large and important public sector, showing that providing grants and training for school committee members alone in the adjoining province of Central Java was insufficient to improve the schools' performance in 520 schools (Pradhan et al., 2014).

Similarly, our results question the effectiveness of government initiatives to improve public services through the provision of facilities. The negative association between resource availability and organisational commitment is possibly due to a mismatch between demand and provision. Rokx et al. (2009) highlighted issues in medical equipment planning, provision, and use that together contribute to inefficiencies. Equipment in health centres can be procured by different authorities - central, provincial, and districts - which leads to some health centres being over equipped while others are underequipped. Moreover, Rokx et al. highlighted a lack of coordination between the availability of equipment and the presence of technical specialists capable of operating it. A procurement plan which considers the available skills of the employees and the population demand is essential to obtain the desired effect on organisational commitment.

Regarding organisational size, our findings are close to those of Turker (2009). We have identified that organisational commitment in larger hospitals is lower than that in smaller hospitals. Small organisations may provide a more supportive work environment than large organisations as they are more flexible with less bureaucracy, less rigidity in decision-making and quicker responses to new opportunities and threats (Kuratko et al., 2001). Policy-makers should therefore acknowledge these differences. The strategy that succeeds in improving employees' commitment in small hospitals may not work well in large hospitals and vice versa.

At the individual level, our results show that job satisfaction is a predictor of organisational commitment, illuminating the debate on the structural association between job satisfaction and organisational commitment. This has a practical implication, especially for hospitals as service organisations. In these organisations, the effectiveness and quality of services depend greatly on work-related attitudes, because the services provided are personal and labour intensive. It is thus important for managers to know how human resources management practices are linked to work-related attitudes particularly satisfaction and commitment. Our findings suggest that it is possible to indirectly influence commitment through implementing strategies - for example, incentives - that increase satisfaction. Buchko (1993) showed that incentives, as an intervention strategy focused on employees, indirectly affected organisational commitment through their influence on job satisfaction. He suggested that the same intervention strategy might not be effective in the case of reverse structural ordering between job satisfaction and organisational commitment.

8 Concluding remarks

Our study moves towards resolution of the persistent puzzles related to the role of reform in enhancing organisational commitment. The results show a definite positive relationship

between length of time since the implementation of corporatisation in hospital sector and organisational commitment among the employees. The limitations of our study include potential biases from common methods variance in the self-report measures used. In addition, although the study has demonstrated a positive association between corporatisation and organisational commitment, it has not provided an estimate of its causal effect due to its cross-sectional design. Future research may employ an instrumental variable estimator so that reverse causality can be ruled out while simultaneously controlling for at least all time-constant unobservable determinants.

These limitations notwithstanding, our findings have important implications for practitioners and scholars of public management. In confirming the relationship between reform and work-related attitudes, our study provides a further source of empirical support that reform improves employees' commitment to the organisation. However, policy-makers should note that this is not an immediate process. In order for the reform to be successful, hospitals need time to learn how to utilise the authority given to their management teams after reform. That time provides the opportunity to better understand the needs of employees and to implement human resources management practices to fulfil those needs. Nevertheless, Indonesia has little time. It plans to achieve universal coverage in the health sector by 2019; improving hospital performance is thus urgent as hospitals are the main providers of advanced curative services. Policy-makers may now wish to accelerate the learning process of the reformed hospitals. The rate of this process is tied to the inherent ability of the hospitals to improve and to the degree to which that ability is exploited by government as the owner. Organisations' abilities to learn and adapt vary considerably, and these abilities are critical to the performance and success of organisations (Argote and Miron-Spektor, 2011). Understanding why some hospitals are better than others at learning during the reform process is an important research agenda as well as a source of competitive advantage for hospitals.

Government as the owner of the hospitals also have an important role in improving the rate of the learning process. To achieve the desired outcome, government should set the goals of the corporatised hospitals. To the best of our knowledge, Indonesia's government has set no goals for the corporatised hospitals. This may be the reason for the frequent delays in, and varied levels of, achievement: goal-setting is widely recognised as a proven ingredient for success in business, encouraging organisations to work towards achieving a target. Furthermore, this goal should be set in stages. Once a goal is reached, many organisations fail to forge ahead and further improve their performance if a new goal is not established. Adequate evaluation, which gives a better insight to set the goals in stages, is essential to ensuring the continuous positive effect of the corporatisation on organisational commitment, which further improves the hospital's performance.

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Table 1: Employee and hospital characteristics of study sample

		%
Employee characteristics (n=1282)		
Gender		
Male		61.78
Female		36.82
Age		
≤ 30 years		16.54
31-40 years		34.24
41-50 years		40.48
> 51 years		8.35
Education		
High school		8.11
Diploma or bachelor degree		82.29
Master or higher degree		9.36
Types of job		
Physicians		9.98
Nurses/midwives		56.08
Administrations		33.62
Tenure		
< 2 years		6.94
2-<10 years		34.40
≥ 10 years		58.58
Hospital characteristics (n=54)		
Status		
Corporatised		88.89
Non-corporatised		11.11
Class		
A (≥ 400 beds)		7.41
B (200-399 beds)		48.15
C (100-199 beds)		37.04
D (50-99 beds)		7.41
Type		
General		88.89
Specific		11.11
Having pay for performance incentive scheme	Corporatised	30.61
	Non-corporatised	20
≥ 60% of nurses/midwives are trained in the last 12 months	Corporatised	24.49
	Non-corporatised	20
≥ 50% of required equipment are available	Corporatised	85.71
Non-reformed	Non-corporatised	80

Table 2: Factor analysis of the variables (rotated factor loadings)

Code	Variable	Factor 1	Factor 2
Work values			
wv1	Dedication to work is a virtue*	0.761	
wv2	Cooperation is a virtue in work*	0.768	
wv3	Work should be done with sufficient effort*	0.798	
wv4	Consultation allows one to overcome obstacles and avoid mistakes*	0.669	
wv5	Devotion to quality work is a virtue*	0.728	
wv6	Progress on the job can be obtained through self-reliance	0.474	
wv7	A successful person is one who meets deadlines at work	0.498	
wv8	A person can overcome difficulties in life and better him/herself by doing his/her job well	0.429	
Job satisfaction			
js1	The sense of achievement you get from your work*	0.560	
js2	The scope of using your initiative*	0.562	
js3	The amount of influence you have over your job*	0.569	
js4	The training you receive		0.726
js5	The opportunity to develop your skills in your job		0.739
js6	The amount of pay you receive		
js7	Your job security		
js8	The work itself		
Organisational commitment			
oc1	I am proud to be working for this hospital*	0.653	
oc2	I find that my values and this hospital's values are very similar*	0.606	
oc3	I am glad that I work for this facility rather than other facilities in this country*	0.604	
oc4	I feel very little commitment to this hospital †		
oc5	This hospital really inspires me to do my very best on the job*	0.684	

Note: †: negative worded question; *: included in the final analysis. Blanks represent abs(loading)<0.4.

Table 3: Organisational commitment in public hospital in East Java

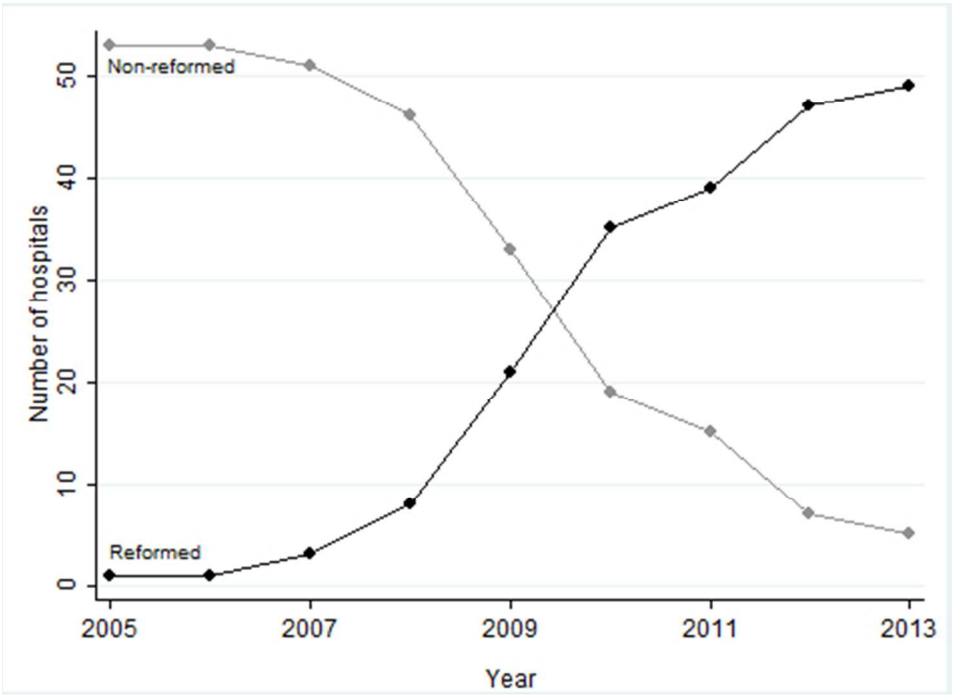
	Model 1	Model 2	Model 3
Measurement model estimates			
Work values -> wv1	0.80 (0.01) ‡	0.80 (0.02) ‡	0.80 (0.02) ‡
Work values -> wv2	0.81 (0.01) ‡	0.80 (0.02) ‡	0.80 (0.02) ‡
Work values -> wv3	0.82 (0.01) ‡	0.82 (0.03) ‡	0.82 (0.03) ‡
Work values -> wv4	0.67 (0.02) ‡	0.67 (0.03) ‡	0.67 (0.03) ‡
Work values -> wv5	0.73 (0.02) ‡	0.73 (0.02) ‡	0.72 (0.02) ‡
Work values -> wv6	0.41 (0.03) ‡	0.40 (0.03) ‡	0.40 (0.03) ‡
Work values -> wv7	0.39 (0.03) ‡	0.39 (0.03) ‡	0.39 (0.03) ‡
Work values -> wv8	0.34 (0.03) ‡	0.34 (0.03) ‡	0.34 (0.03) ‡
Job satisfaction -> js1	0.61 (0.03) ‡	0.62 (0.03) ‡	0.62 (0.03) ‡
Job satisfaction -> js2	0.72 (0.02) ‡	0.72 (0.03) ‡	0.73 (0.03) ‡
Job satisfaction -> js3	0.65 (0.03) ‡	0.64 (0.03) ‡	0.64 (0.03) ‡
Organisational commitment -> oc1	0.70 (0.02) ‡	0.68 (0.03) ‡	0.70 (0.03) ‡
Organisational commitment -> oc2	0.63 (0.02) ‡	0.64 (0.04) ‡	0.63 (0.04) ‡
Organisational commitment -> oc3	0.61 (0.02) ‡	0.59 (0.04) ‡	0.61 (0.03) ‡
Organisational commitment -> oc4	0.70 (0.02) ‡	0.71 (0.03) ‡	0.71 (0.03) ‡
Structural model			
Level 1			
Work values -> Job satisfaction	0.03 (0.04)	0.07 (0.05)	
Job satisfaction -> Organisational commitment	0.46 (0.05) ‡	0.38 (0.05) ‡	
Work values -> Organisational commitment	0.27 (0.04) ‡	0.31 (0.04) ‡	
Level 2			
Corporatisation -> Organisational commitment	0.33 (0.19)*	0.06 (0.04)*	
Hospital class -> Organisational commitment	-0.40 (0.22) †	-0.07 (0.04) †	
Training -> Organisational commitment	-0.11 (0.15)	-0.01 (0.03)	
Incentive -> Organisational commitment	0.28 (0.22)	0.09 (0.04) †	
Resources availability -> Organisational commitment	-0.05 (0.23)	-0.04 (0.03)	
$\chi 2$	304.31	612.95	
df	84	244	
p	0.000	0.000	
CFI	0.965	0.945	
TLI	0.956	0.936	
RMSEA	0.045	0.035	
SRMR	0.037		
$SRMR_{(within)}$	0.042	0.035	
$SRMR_{(between)}$	0.225		
AIC	34,467	32,754	
BIC	34,730	33,193	
Number of employees	1282	1180	1180
Number of hospitals	54	51	51

Note: Reported are standardised coefficients (standard errors). Sig.: *: 10% or less; †: 5% or less; ‡: 1% or less. Full list of codes wv1 to oc4 are given in Table 2.

Table 4: Intraclass correlations (ICCs) for individual items

Variable	ICC	Variable	ICC	Variable	ICC
wv1	0.02	js1	0.02	oc1	0.06
wv2	0.02	js2	0.03	oc2	0.03
wv3	0.03	js3	0.02	oc3	0.08
wv4	0.03	oc4	0.04		
wv5	0.03				
wv6	0.03				
wv7	0.02				
wv8	0.03				
Mean of each latent variable	0.03	0.02	0.05		
Mean of all variables	0.03				

Note: Full list of codes wv1 to oc4 and their labels are given in Table 2.



Hospital status from 2004-2013
167x121mm (72 x 72 DPI)

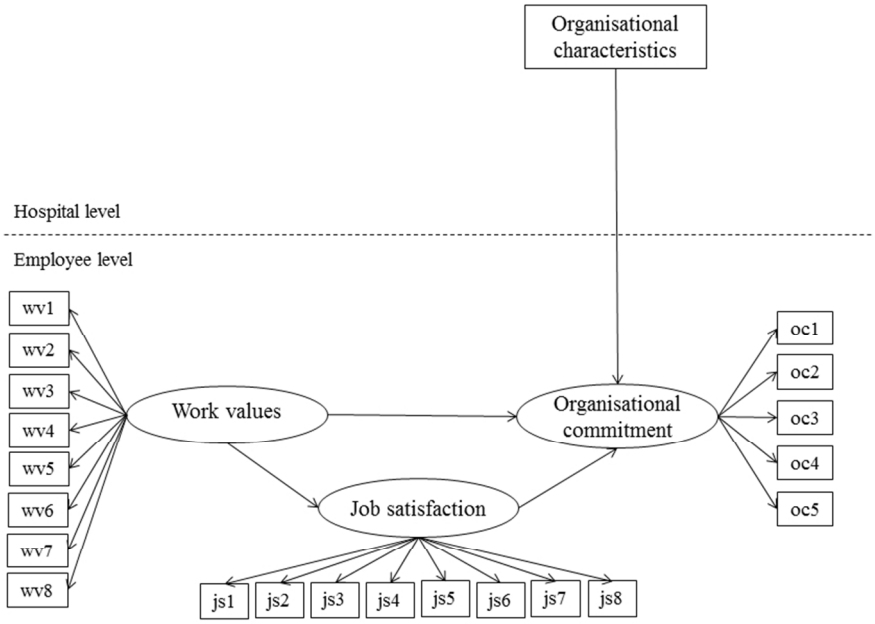


Figure 2. Structural and multilevel model of organisation commitment, where the indicators (wv, js and oc) are described in Table 2
254x190mm (96 x 96 DPI)

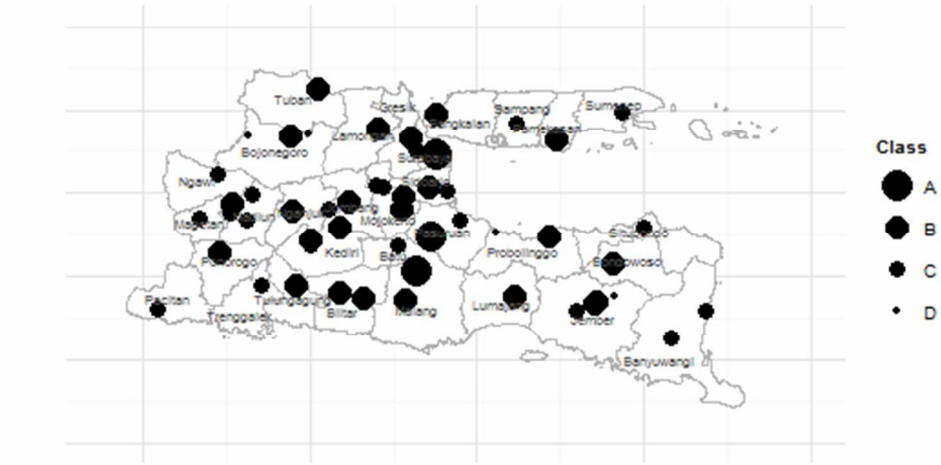


Figure 3. Spatial distribution of the 54 public hospitals in East Java province

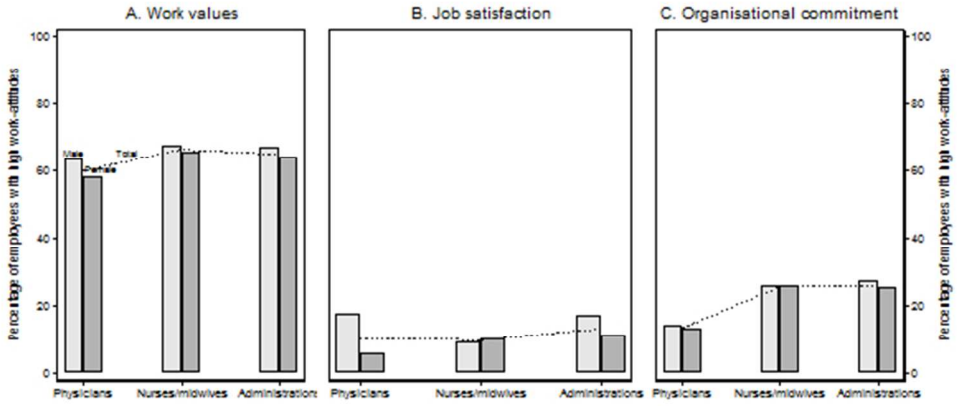


Figure 4. Percentages of male and female employees with high work-related attitudes

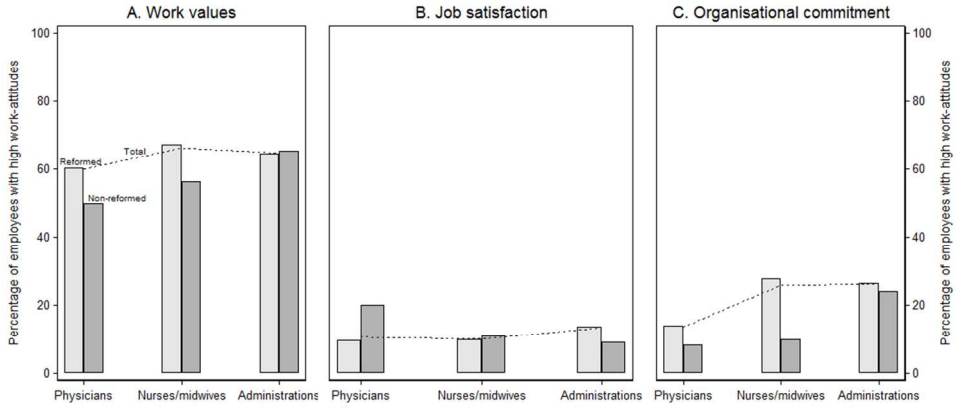


Figure 5. Percentages of employees with high work-related attitudes in reformed and non-reformed hospitals