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# ANALYSIS OF HUMAN RESOURCE MANAGEMENT PRACTICES

INDONESIA LABOR INTENSIVE LIGHT MANUFACTURING INDUSTRIES

**FEBRUARY 2008 – STTA HENRIETTA LAKE**

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## **DISCLAIMER**

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# ACKNOWLEDGMENTS

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# EXECUTIVE SUMMARY

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Indonesian garment, footwear and furniture companies are lagging behind their main competitors in China and Vietnam in terms of gaining global market share. Much of China's impressive growth over the last 10 years can be attributed to its fast increasing labor productivity. Indonesian workers in these three sectors are widely reported to be operating at around half the labor productivity of Chinese workers.

Just over half (52%) of the firms surveyed for this study had downsized their operations or experienced falling sales in the last 5 years. If their sales volumes were stable or increasing, often the prices that they were able to obtain were falling. Some of the firms surveyed were showing healthier signs: expanding operations, usually by moving into regions where the minimum wage is lower, or facing capacity constraints due to increased orders. This pattern reflects the reality that smaller firms are struggling in an increasingly competitive market place and getting locked out of export-orientated supply chains, as buyers consolidate their supply bases and focus their attention on the best performing vendors which can meet their price, quality, delivery, social and environmental compliance criteria.

Almost one quarter (23%) of firms surveyed had lost orders because they were not able to meet the social compliance standards of prospective buyers. Many failed on basic health and safety and housekeeping issues, which can be easily and cheaply addressed, if the firms were shown how. Other recurring compliance problems were the extensive use of contract labor, the non-payment of social security (Jamsostek), working hours and child labor.

Minimum wage compliance at the firms surveyed was generally good, but the very high relative wage rates, compared to a decade ago, are driving workers into the informal sector. Most firms are paying their workers above the minimum wage for their region, but a substantial minority of firms are moving to set up new operations in areas where minimum wages are up to 30% lower. Almost all the firms surveyed were only hiring new workers on a contract basis. On average, 60% of the total workforces in the factories surveyed were contract laborers. Firms reported that the proportion of contract workers had increased over the last 5 years, in response to legislation on severance pay and minimum wages. The regulatory environment seems to be diminishing the terms of employment for many workers. These high levels of contract labor may act as a disincentive to employers to invest in training, which will harm Indonesia's longer-term human capital upgrading and growth prospects.

One key way to address labor productivity underperformance and these social compliance issues that are losing Indonesian firms business is through better human resource management (HRM) systems. This study found great variety in HRM practice across and within each of these value chains with only 2 or 3 factories surveyed utilizing a good selection of best practices. In general sports shoe and garment manufacturers had more advanced HRM systems than leather shoe and furniture manufacturers.

There is considerable scope for improving labor productivity at these manufactures through low cost measures. For example, although recruitment procedures are becoming more formalized, none of the firms surveyed engaged in any aptitude testing, hand-eye coordination tests, color blindness, hand or finger dexterity tests during recruitment. These are cheap methods of identifying workers who will be more productive.

Investment in training was also lower than anticipated at the surveyed firms. One of the reasons for this may be the ready supply of skilled labor in particular regions, skills having been passed down generations in cottage industry and then transferred to the factory. Factory managers may also simply perceive only limited benefits to training investment in these industries. This legacy has led to an under investment in training so that Indonesian workers and firms are not improving their performance at the same rate as their foreign competitors which do invest in training.

The lack of training has a number of negative consequences for firms; not only does productivity stall, but the lack of new skills acquired means that firms are not moving up the product value-added chain. A number of firms surveyed were now manufacturing more basic, cheaper products than they were 5 years ago, because they could not meet the standards and prices for more complex designs. This bodes poorly for the value of exports, human capital accumulation and development of these industries.

Of the training that does take place at the firms surveyed, almost all is ad-hoc, on-the-job. Because it is so informal managers are not measuring the return on investment or any impact this training has on the performance of their workforce. As managers cannot see a quantifiable benefit to the training they are not allocating resources to this area.

One advance in HRM systems that was observed during the study was the grading of workers and creation of the beginnings of competency frameworks by several firms. A number of factories had implemented an A-B-C system of grading, based predominantly on skill, but also attitudes, performance and tenure. These grades determine pay rates. Such standards and categories helps managers set incentives and rewards and can serve as a useful motivational tool for workers who wish to progress, thereby boosting productivity.

Incentive pay schemes were in place at roughly a half of the firms surveyed. Financial bonuses for reaching targets ranged from 10-35% of a worker's total take home pay. Some factories had tried to implement an incentive pay schemes but due to a lack of transparent and objective data management systems were unable monitor performance and link performance to pay, which made them unviable.

Communication systems between workers and management were very underdeveloped at almost all the firms surveyed. Most of the factories were not communicating often enough or in ways that would boost their performance by making workers feel like valued team members with a stake in the enterprise. There was virtually no use of workers committees or proper grievance systems. Some of the best practices were observed in one firm where the HR team does monthly interviews with a selection of workers to find out what their needs and concerns are. Culture gaps, between local production workers and expatriate supervisors or managers, leading to tension on the production floor were commonplace.

The study drew attention to the need to conduct a fuller survey of firms in order to find out which are the most effective HRM systems in this context. It is also recommended training is provided to firms, particularly in HRM and working environment, data monitoring and production planning, housekeeping (5S), quality control, and general management skills. Finally work should be done with other institutions to set a clear benchmark standards and skills matrix.

# 1. INTRODUCTION AND ACTIVITIES

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## 1.1 INTRODUCTION

This consultancy seeks to explore what opportunities can be realized at the factory level to improve productivity through more innovative and advanced HRM practices. The investigation was carried out in three of SENADA's most labor-intensive sectors: footwear, furniture and garments. SENADA is a USAID-sponsored 4 year project that aims to generate growth, jobs and income by increasing the competitiveness of Indonesia's major labor-intensive light manufacturing industries. Labor productivity, the subject of this investigation, is a key factory-level determinant of competitiveness.

The consultancy also forms part of broader activity at SENADA that will assess the impact of the 2003 Manpower Law and provide policy recommendations on that law. The end result from this study will be a set of recommendations to factory owners and managers on best practices in human resources (HR) that will aim to maximize productivity given the constraints imposed by the current labor regime.

## 1.2 ACTIVITIES

The 30-day project included meetings with footwear, garment and furniture manufacturers, global buyers, industry trade associations, international agencies and related research and training institutions. In total 17 production sites were visited and 22 manufacturing firms were interviewed between January 7 and February 8. Companies ranged in size from 50 to 5,000 employees.

Visits took place in and around Jakarta, Bogor, Bandung, Sidoarjo, Gresik and Surabaya. Interviews were conducted in English or in Bahasa Indonesia with translation into English, with the manager responsible for human resources, a production manager and often the factory owner or senior factory manager. Interview notes are available separately. The interviewees and their contact details, both for the factories and other organizations, are listed in Appendices IV-V respectively.

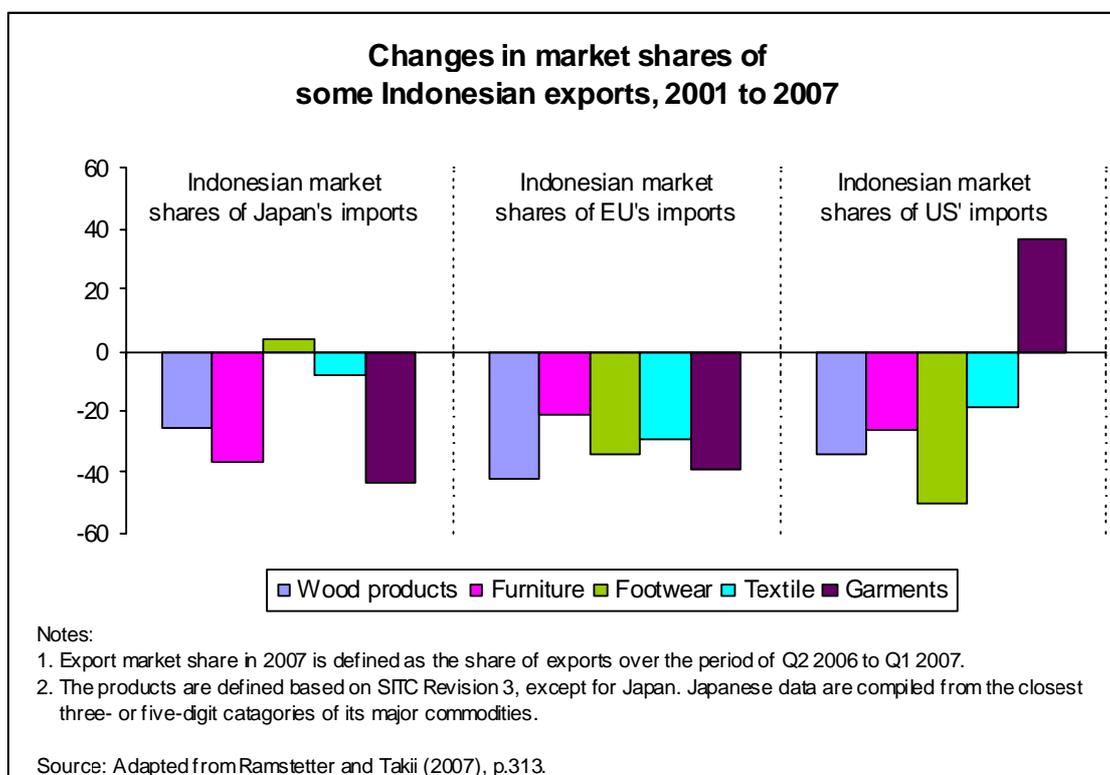
A small roundtable was held in Surabaya on January 24 concerning best practices in HRM and was attended by local furniture companies. The project culminated with a SENADA-sponsored roundtable on February 6, *Human Resource Management and Labor Productivity: Key Lessons for Indonesia*, with participation by members of each of the stakeholders listed above, plus the relevant Indonesian Government Ministries and Agencies.

## 2. BACKGROUND RESEARCH

Labor-intensive industries such as garments, footwear and furniture are critical for Indonesia's development. Not only do they generate valuable foreign exchange, but they also provide jobs for a large, young and expanding urban population. More than 3 million Indonesians directly rely on the health of these three sectors for their livelihood.

Unfortunately Indonesia's share of the global markets for these products in the United States (US), European Union (EU) and Japan has been falling since the beginning of the decade (see chart below). There has also been a decline in private sector employment in these sectors over the same period.

Figure 1: Changes in Market Share Of Some Indonesian Exports, 2001 to 2007



China and Vietnam in particular have been gaining ground to the detriment of Indonesia in these sectors. Much of China's impressive growth can be attributed to its fast increasing labor productivity over the last 10 years (ILO 2007). Widely cited estimates put the productivity of Indonesian garment workers at about half that of their Chinese competitors (US Embassy 2005). Employers in furniture production made similar comparisons on labor productivity during this consultancy. According to a recent study that makes some international comparisons on labor productivity in manufacturing, Indonesian laborers are less than half as productive as workers in India and ten times less productive than those in South Korea (Erumban 2007). Indonesia needs to address this gap if it is to compete.

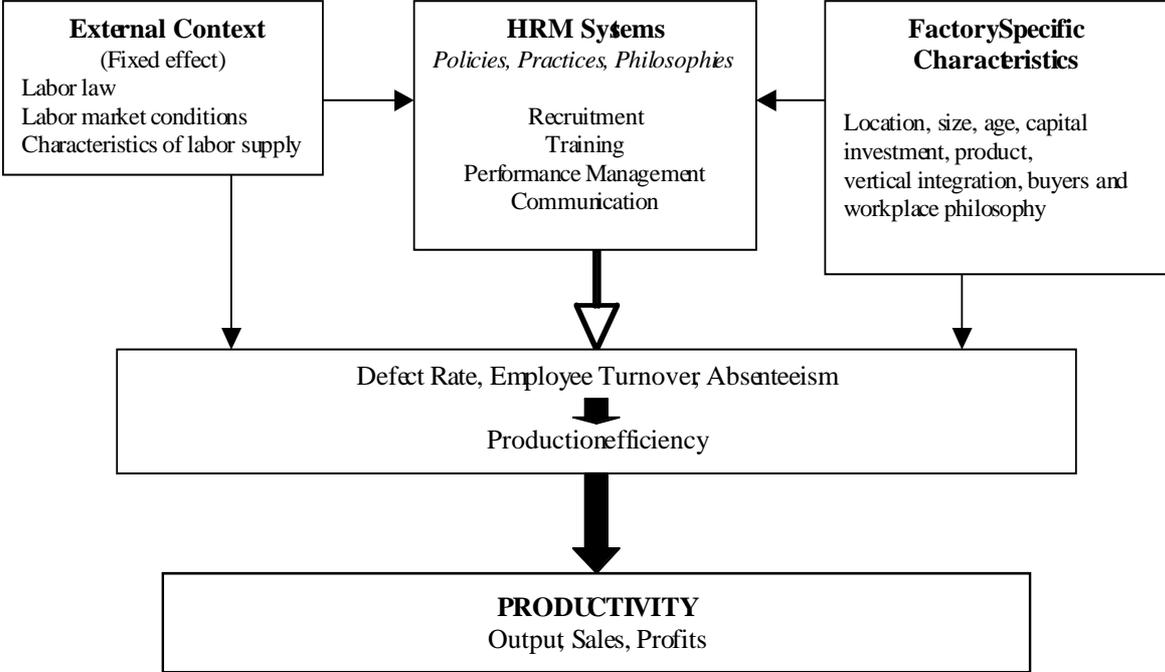
A firm's productivity depends on a variety of factors, which include the investment climate, logistical capabilities, access to credit, capital investment and so forth. But an often-overlooked important contributor to a firm's overall performance is the quality and performance of its human capital. Typically, in a context such as Indonesia, which bases its competitive advantage

on the supply of low cost labor, human resources are viewed as a variable cost to be minimized. Investment in human resources is widely believed to produce only negligible returns. However, studies on HR in manufacturing in industrialized countries, which began in Japan in the 1980s, began to challenge this notion and to view human resources as an asset to be enhanced, invested in and strategically managed. Work was done to see what types of practice produced the best returns and the concept of ‘high performance work systems’ (HPWS) evolved.

There is no agreement over what exactly constitutes a HPWS and different practices work better in certain contexts and in certain industries, but broadly HPWS includes the following components: selective recruitment, cross training, job rotation, team building, decentralization of decision-making, incentive pay and worker participation. The existence of these more advanced HR approaches will be investigated in this consultancy.

The diagram below maps out how a firm’s HRM system impacts its productivity, and is influenced by a number of external factors and firm-specific characteristics.

**Figure 2: Conceptual Framework for HRM and Productivity**



The external context includes factors that affect all firms operating in the same region (fixed effects), such as the 2003 Manpower Law and other regulations, tightness of the labor market, the level of technical skill or education of the local labor force, and even seasonal variations in temperature and public holidays. Firm specific characteristics that have been shown to directly and indirectly influence the HRM systems and performance include the amount of capital investment, age and size of the establishment and its level of vertical integration.

Firm-specific factors such as the buyer(s), also influence productivity because of the potential for knowledge transfer they bring to performance-enhancing best practices. All these variables will be explored in this consultancy in order to find out which HRM systems produce the best performance outcomes for firms, in the context of labor-intensive light manufacturing in Indonesia.

### 3. PRIMARY FINDINGS

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The business outlook for the firms investigated during this consultancy was quite varied. Just over half of those surveyed had downsized their operations or experienced falling sales in the last 5 years. Where sales volumes were stable or increasing, the prices that these firms were able to negotiate were often decreasing, along with margins and profits. Other firms indicated healthier signs, including expanding operations (usually into regions where the minimum wage is lower) or capacity constraints due to increased orders. For example, Factory C1 a garment manufacturer in Tangerang, was setting up new operations four times its size in Central Java. Factory L, a rattan furniture manufacturer in Surabaya, had built itself up from 4 years of sub-contractor work to establish itself as an exporter, and operated at full capacity.

Analysis of the trends in the sample, combined with conversations with industry observers, point to a bifurcation in the experiences of the companies. Firms seem to fall into two categories. On the one hand the smaller firms are struggling in an increasingly competitive market place and becoming increasingly shut out of their industry's value chains. On the other hand, it is often the larger companies, that possess more sophisticated systems, who are able to meet the increasingly stringent standards and expectations of their buyers. Clearly, buyers have begun to place more of their orders with these larger companies. There were very few firms that fell in between these two categories. In many ways this is not surprising given that in the post quota environment (from 2005), in at least the garments industry, the buyers are consolidating their supply bases and focusing resources and orders on the best performing vendors. Buyers want to source from vertically integrated firms, and they want a "one-stop shop" that can minimize their costs. Companies in the footwear and furniture industries are experiencing similar challenges.

The demands for larger orders at cheaper unit prices are excluding many Indonesian suppliers due to their production capacity constraints. Factory N and Factory L, both furniture manufacturers, have had to turn down orders because they cannot supply the volumes required. Unfortunately small orders are not easily available to replace large volume orders. The implications of these trends are mixed for employers, depending on whether they are able to participate in the more lucrative export orientated value chains. But workers should not, in theory, lose out as long as they have the flexibility to move to where the jobs are located at the larger firms that can accept the large volume orders. This is of course, not always the case.

The growing demand for ethical sourcing is also an opportunity and a challenge for the producers interviewed. While on the one hand ethical sourcing offers Indonesian manufacturers an opportunity to supply an expanding niche market, on the other, many are not yet in a position to meet the criteria to be 'socially responsible producers'. Just under a quarter of the companies surveyed had failed social compliance audits and lost potentially lucrative orders from large clients. Many failed on basic health and safety and housekeeping issues, which could be easily and cheaply addressed, if the firms were shown how. According to the buyers interviewed the main compliance violations for vendors in Indonesia are non-payment of Jamsostek, multiple contract extensions for workers, working hours and child labor. Interestingly Factory H in Bandung, was targeted by NGOs that highlighted its multiple labor rights violations. The company, with 1000 workers, was forced to close with the loss of jobs. But the company then re-established itself the next year as a compliant factory in the same region and is now operating at full capacity and with very low employee turnover.

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<sup>1</sup> Factory names have been removed from the main part of this document to protect confidentiality. A key to the factories is available in Appendix A.

A number of surveyed firms were performing well, but might face constraints as they try to expand and get access to bigger orders for the export market and domestic market. Several factories, such as Factory G and Factory L, were able to keep their costs down by not complying with various regulations and offering flexibility to workers by allowing work to be conducted at home or during overtime. These companies are small enough to be just under the radar of the buyers with social compliance standards, and fair well against their larger neighboring competitors that have to meet the compliance criteria on work conducted at home, sub-contracting, wages and working hours, etc. But if these smaller companies want to expand their market presence they will have to reorganize their business model. Social compliance does not have to be costly, but it does require a reallocation of resources. While social accountability certification is most prevalent in the apparel and sports footwear industries, it is currently expanding into the furniture and home accessories and leather shoe industry. IKEA's "IWAY" and Home Depot's 'Supplier Social and Environmental Responsibility (SER) program are just two examples (SENADA 2207). If Indonesian firms want to compete they will have to respond to these social compliance standards.

### **3.1. EFFECTS OF THE 2003 MANPOWER LAW**

With such a small sample of firms in this preliminary survey it would be unwise to draw conclusions on the effects of the 2003 Manpower Law. However, the wide mix of firms surveyed, in terms of size and industry, and the consistency of the 'story' that was told by managers lead one to assume that the findings here are likely to be roughly consistent with the more representative and robust survey that will be conducted in 2008.

The emergence of democratic rule in 1998 led to significant changes to both labor market policies and their implementation in Indonesia. A firmly 'pro-employer' position has dramatically changed in direction to a position that is supposed to more strongly uphold workers' rights and welfare. But a number of studies have shown that large increases in minimum wages and severance pay, coming at a time of weak economic growth and investment, have inflated the costs of business and are in fact reducing the demand for formal employment. A survey by the Asian Development Bank (ADB) (2005a) of manufacturing enterprises found that 23% of managers reported that labor market policies are a major or severe constraint to their operations and growth. However, it should be noted that the ADB also states in the same report that macroeconomic instability, policy uncertainty, corruption, current tax rates and the costs of financing are listed more often than labor regulations as major or severe constraints to business (ADB 2005a).

This preliminary survey found that minimum wage compliance in the firms surveyed was generally good. Most of the firms interviewed were paying their workers above the minimum wage for their region. This finding aligns with the 2001 SMERU study that found that actual wages closely bunched around minimum wages. It would seem that Indonesian workers are well informed about minimum wage rates. However, firms were responding to the need to comply with minimum wage rates in a number of ways. Firstly several firms, including Factory C and Factory Q were moving or setting up new operations in areas where minimum wages are up to 30% lower. This meant, at the very least, the halting of hiring at their existing operations. Although this strategy leads to cost savings on payroll, a trade-off occurs against needed investment in training in regions that lack pre-existing industry skills. It was also only the largest firms that could afford to take this option. An option which is itself risky as minimum wages are not guaranteed to remain at such a discount. The firms unable to make such large changes are left either having to pay the higher minimum wages or resorting to contracting, which is exactly what we discovered. In short, the minimum wage levels are driving workers into the informal sector. Using province-specific labor-force data for 1990 to 2000, Bird and Manning (2002) examined the impact of minimum wages on the allocation of employment between the formal and informal sectors in urban areas. They find that higher minimum wages are significantly associated with a larger share of informal sector employment after 1997. Our findings were the same.

Although the law stipulates that employers may only hire contractors for non-core business activities, this is not what was found in this preliminary survey of garment, footwear and furniture manufacturers. Firms also were not honoring the law in taking on contractors as permanent employees after 3 years of contracting. On average, more than 60% of the total workforce in the factories were contract laborers. If calculated as a proportion of production workers, rather than total employment, the fraction of contract labor would have been higher. Almost all respondents reported that the proportion of contract workers at their firms had increased over the last 5 years. Almost all new hires were on a contract basis. The lowest proportions of contract workers were at factories supplying Nike and Adidas, at around 20%. The managers explained that pressure from these companies to reduce the proportion of contract workers has kept them at this level. Unfortunately, this type of pressure was atypical. Most other vendors, even those that supply big name brands that discourage contracting, such as Gap, Columbia, and Ann Taylor, were employing contract workers at nearly 50% of their workforce.

The reported drivers for this shift to contracting were minimum wages and severance pay. Managers explained that when permanent workers left they were not replaced. Observers from industry associations reported that employers trying to avoid payouts had been known to sack their workers and then re-hire them as contractors. Workers are complying with this company behavior because of limited alternative opportunities for work. Therefore, increasing numbers of workers hired since the financial crisis and after the changes to the labor law are hired on very different terms and without the security and benefits of their longer tenured colleagues. When used to supplement the permanent workforce during peak production periods, contract labor makes good business sense, particularly for the smaller footwear and furniture producers that have more seasonal production schedules. However, when it is used as a regular substitute for permanent labor, the implications for Indonesia's human capital accumulation and economic development are grave. The widespread and increasing reliance on contractors encourages firms not to invest in upgrading the skills of their workforce. It acts as a disincentive to train that will harm the long-term prospects and competitiveness of these industries.

## **3.2. HUMAN RESOURCE MANAGEMENT**

### **3.2.1. OVERVIEW**

The main activity of this consultancy was to review the current state of HRM practices in place at firms in the garment, footwear and furniture industries. What became clear during the survey was the great variety in practice across and within each of the Industrial Value Chains (IVCs), with only 2 or 3 factories utilizing a good selection of best practices in HRM. Broadly, the sports shoe and garment manufacturers had more advanced HRM systems than the leather shoe and furniture manufacturers, but there were exceptions.

When asked about the main challenges facing them in production, issues such as late delivery of materials, high absenteeism, lack of commitment of workers, a shortage of high quality stitchers (in garments and footwear and weavers in rattan furniture), along with labor productivity, were the most cited by managers. One comment from a manager in a large garment manufacturer was typical: "Buyers keep changing their specifications, and the designs get more complicated but the workers' productivity stays the same. We can't keep up". This is not surprising as most establishments were still operating very traditional and unproductive HRM systems.

Many of the factories are still family run, often by ethnically Chinese families. Some of the larger firms had professionalized and upgraded their production systems by hiring Korean and Taiwanese supervisors or production managers with the required technical skills from countries with longer histories of this type of manufacturing. Although these managers have the technical skill and expertise

to meet buyers' expectations on certain criteria, they are generally not trained in HRM and are missing out on opportunities to have a more productive workforce. But this lack of knowledge was widespread across the IVCs and different types and sizes of firm. An email received from the HR manager following a visit to one furniture producer was typical of the response.

*"I need to learn about HRM management but I have no more experiences, and literate about that. My background education is Psychology but not Industry Psychology. I know about AMT, aptitude test and etc but I never practice in industry field. Since yesterday I have motivate to learn and practice my education background. In actually yesterday I want to learn from you but my English is not very well."*

The response by firms to this preliminary survey was generally one of inquisitiveness. Respondents said that they had never been asked these questions before and wanted to learn more about more advanced HRM techniques. Below, the findings from the survey for different components of an HRM system are discussed in more detail.

### **3.2.2. RECRUITMENT**

A formal recruitment procedure is the first step towards a more strategic and value-adding HRM system. In order to have the best impact on performance many of the advanced HR techniques require the selection of certain types of workers: those that have the personality traits to be motivated by and perform well in teams, or those that are slightly more educated and will respond better and more quickly to training.

Because of the strategic location of many of the factories in areas with a history of skills in their sector, the majority surveyed did not report any difficulty in finding suitable workers. However one firm situated near Jakarta had a sister unit based in Sumberang which, due to the shortage of labor, had an arrangement with a local high school to supply graduates. As more factories relocate to areas where labor and land is cheaper, but the workforce lack labor skills, such strategies will become more commonplace.

Methods of recruitment were typical for these industries: signs placed outside the factory gate and referral by existing employees. However, some of the larger factories were not finding the labor to meet their needs and were outsourcing to a labor provider, which could take the form of either a private company, village head or local religious leaders. Tapping into local community networks can be a good mechanism for recruitment, but there is a danger that this allows factory managers to believe that they have outsourced all their HR issues and could lead them to ignore symptoms of deeper issues that may be affecting production. A response from one factory owner is indicative of this attitude: "I outsource all recruitment to a number of different providers, it takes away my headache. If I have any problem at all with the workers I simply change providers." This factory manager may be ignoring management issues or other barriers to improved performance that derive from internal, systemic issues.

Recruitment procedures are becoming more formalized in all three sectors, although the furniture industry remains more traditional compared to footwear or garments. A number of buyers for garments and footwear have been encouraging their vendors to set up proper personnel records and to do at least the most basic medical and document checks, including age verification, for new hires. Beyond these more formalized procedures there was no additional screening for new workers within this sample of firms, which presents a missed opportunity to maximize productivity. Only one factory engaged in more detailed interviews to find out about the experiences of a new hire and their family background. None of the firms surveyed engaged in aptitude testing, hand-eye coordination tests, color blindness, or hand or finger dexterity tests, all cheap methods of identifying workers which will be more productive. A large cause of this is that factories are hiring workers with existing skills and

believe they do not need to do additional tests. But some of the companies not interviewed for this preliminary survey may have thought more carefully about the types of workers they recruit and engaged in some screening. Factory L, for example, which manufactures rattan furniture in Surabaya, has a policy of hiring older and less educated workers, so as not to compete with their larger, neighboring competitors which are taking the younger and more educated workers. The younger and more educated workers are more likely to respond better to training.

### 3.2.3. TRAINING

Training is the key component of a more advanced HRM approach. Investment in training was lower than anticipated at the surveyed firms. One of the reasons for this may be the ready supply of skilled labor in particular regions, skills having been passed down through generations in cottage industries and then transferred to the factory. Factory managers may also simply perceive only limited benefits to training investment in these industries. However, this complacency may be putting Indonesian manufacturers at a disadvantage over the longer term. Because workers arrive at the factory with skills up to a certain level, managers then perceive that they do not need to invest in training programs which would increase their skills up to a level of competency required to supply export markets with more higher value-added products and to meet the rising quality and process standards of the buyers. International buyers are pushing their contract vendors for cheaper products made to higher quality standards and delivered to tighter deadlines.

This can only be achieved by using a better-trained and hence more productive workforce. A worrying trend was noted at 3 of the factories surveyed (in garments and furniture). Rather than moving up the product value-added chain, these 3 factories were now manufacturing more basic products than they were 5 years ago because they could not meet the standards and prices for more complex designs. If this is reflective of a wider trend, then it bodes poorly for the value of exports, the human capital accumulation and the development of these industries.

Interestingly some of the factories that invested the most in training for the whole workforce were some of the smallest, such as Factory F, which could not compete with its larger neighbors for skilled workers and so had to conduct the training itself. Unfortunately for this firm, its workers would often leave as soon as they had become proficient in order to join the larger firms that paid more and offered better benefits. Factory F was experiencing turnover rates of 50% a month, as compared to the larger and more advanced establishments which generally had turnover rates of 0.5-3% a month. This situation underscores the need for factories like Factory F to consider more effective retention techniques if it is to make such training investments.

Skills shortages were most acutely felt in the higher skills areas of single and double machine operators in garment manufacturing, stitchers for the uppers in leather and sports shoe production and weavers in rattan furniture making, in all of the regions visited. Firms moving to areas away from the historic centers of production in their industry in order to minimize labor and other costs will have to balance these savings against the costs of investment in training for their unskilled workers.

Factory K, a large sports footwear manufacturer in Surabaya said that it had begun to face a skills shortage in the last couple of years as it expanded and was having to hire more unskilled workers and conduct more in-house training. Factory K was also one of several factories that had recognized the benefit of training in team building and motivation skills for its supervisors and sent them to do external coursework. However, for Factory K the investment did not payoff as it was not impressed by the quality of the training provided by a government sponsored program and felt that it could train its supervisors better internally. Materials and equipment suppliers, for example paint or sewing machine suppliers, were another source of targeted training for manufacturers. Several furniture manufacturers had received training from one American buyer that had sent a technician to train

them for about one month on finishing techniques for the US market (glossy sheens) and how to produce 'knock down' furniture, self-assembled by the customer.

Apart from the examples above almost all the training conducted at the factories surveyed was ad hoc, on-the-job (OTJ) training. Because it is so informal managers are not measuring return-on-investment (ROI) or any impact this training has on the performance of their workforce. If managers cannot see a quantifiable benefit they will not allocate resources in this area. Only one factory had formalized its training by opening up a separate training center (Factory C) off of the main production floor. Such dedicated areas allow workers to concentrate and focus better on what they are learning. It also maintains product quality as it keeps novices away from merchandise. Another, Factory Q, was opening up its own center within the month. Factory Q was also one of the only firms to have a formalized training schedule, ensuring comprehensive coverage for all its workers. Research shows that diffused training within a workforce has the greatest performance effect (Black and Lynch 2001; Osterman 1994).

One of the areas of greatest training needs at the factories surveyed is in quality control methods. In-line defect rates were higher than expected, and for one high quality leather shoe manufacturer, Factory I, were as high as 18%. Typical in-line defect rates for other factories were 5-10%. Some factories had implemented a 'traffic light system' (red, amber, green) on workstations to draw supervisors' attention to quality problems, which is an advance on many other production sites that were not tracing defects back to the operator who made the mistake quickly enough. Evidence of more advanced quality management systems such as "total quality management" (TQM) and the application of statistical process control were virtually non-existent. There are large opportunities here for raw material cost savings and productivity increases if more advanced quality assurance methods were adopted.

One advance in HRM that was observed during this preliminary survey was the grading of workers and creation of the beginnings of competency frameworks by several firms. A number of factories had implemented an A-B-C system of grading, based predominantly on skill, but also attitudes, performance and tenure. These grades determined pay rates. Such standards and categories helps managers set incentives and rewards and can serve as a useful motivational tool for workers who wish to progress. The challenge is for cross industry standards to be developed to help the flexibility of the labor market. One such initiative is currently underway through the independent National Standardization and Certification Agency (BNSP) that was set up in 2005. The BNSP includes 28 professional certifications, including one for the garment industry: ICA Garment. Factory E is one of the factories taking part in this initiative and has had the competency of about 300 of its machine operators certified.

#### **3.2.4. RETENTION AND MOTIVATION**

Many of the factories in the survey supplement their workers' basic wage with a performance bonus. Rewards for reaching targets generally ranged from 10-35% of a worker's total take home pay. At some of the more sophisticated factories with better performance monitoring systems the incentive scheme appeared to be doing its job, but many others were struggling. Some did not pay the bonus often enough or with such a time lag between performance and benefit that it ceased to serve its purpose. Factory E and Factory I had not successfully linked workers' and teams' 'volume' performance to their quality control systems, so they found that defects unsurprisingly went up as workers raced to meet targets. Factory H ceased its performance pay scheme because of the arguments it caused between workers about unfair payments.

In many of the factories team bonuses are given to the supervisors to distribute to the workers on their line according to their performance. An alternative would be for allocations to be made by the HR department, based on objective performance data gathered on each worker. If left unmonitored

the process of supervisors controlling payments for their team leaves the system open to abuse. If workers believe they are victims of any sort of favoritism it can be highly de-motivating. All of these problems demonstrate the critical need for improved data management systems in factories. If management cannot measure and monitor the performance of individuals or teams in a clear, transparent and timely fashion, the more advanced HR motivational tools, such as performance bonuses, will simply not work.

Many factories pay other bonuses items such as for attendance, or life altering events such as religious celebrations, marriage, condolences. Bonuses for attendance can reach Rp 25,000-50,000 per month on average. Many factories also have medical clinics on site and one factory offered grants to workers with children in school. Compensation packages are the most commonly relied upon method of retention and motivational HR strategies, but they should not be focused on to the exclusion of other methods. Regular performance appraisal is a useful tool for managers. Workers should be given the opportunity to improve their skills through training and then be rewarded for that acquisition. At many factories the supervisor advises whether a particular worker is ready to work on a more difficult operation. This is an adequate system as long as it is backed up by actual data on performance and not reliant on the recommendation of one superior. Factory M described how it had a problem with the objectivity of one of the supervisors and so had stopped doing evaluations for the last year. If appraisals are not conducted often enough, or in a transparent manner, workers may move factories to be given the opportunity to work on more complex and better paid operations (Lake 2007).

Teamwork can be a useful motivation and performance enhancing HR tool, if implemented correctly. Peer pressure and competition between groups have been shown to be powerful motivators (Hamilton et al 2003). However in order to stop free-riders, factories have to recruit the kinds of workers who respond well to teamwork. The introduction of teams also requires new methods of job analysis, assessment, recruitment and socialization activities (Klimoski and Zukin 1998). Factory L encountered this problem. Productivity went down when it introduced teamwork because “some workers were diligent and some lazy” and the better workers became demoralized once they had to share their bonus with those they thought were not pulling their weight.

Communication systems are an important but often undervalued component of more advanced HRM systems. ‘Communication’ can take the form of meetings that include all workers and not just senior management, interviews, workers’ committees, open door policies, suggestion boxes and so forth. What is important is to keep the channels open and for the exchange to extend both ways. A method should exist for workers to express problems or even ideas for improvements to production processes, and on the other side for management to share information about production and other work-related issues.

Most of the factories interviewed as part of this preliminary survey were not communicating often enough or in ways that would boost performance by making workers feel like valued members of the enterprise. Some of the best practices were observed at Factory Q where the HR team conducts monthly interviews with a random selection of workers to discover their needs and concerns. Factory P had in place a workers’ committee that also met once a month. Factory N had a meeting every Monday morning with all workers at which they talked about performance and production problems. Regular, two-way communication between workers and managers is the best way to avoid conflict on the production floor and can also boost productivity by making the workers feel more valued and engaged and hence willing to work in a more committed manner. Culture gaps between local production workers and expatriate supervisors or managers can also lead to tension on the production floor. These factories need to pay particular attention to installing alternative communication channels and providing supervisory skills training to help them with team building and motivational techniques.

## 4. RECOMMENDATIONS

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This preliminary survey on the state of HRM systems in a sample of labor-intensive firms in Java clearly highlights the lack of knowledge, and lack of implementation of HRM best practices. At the same time it demonstrates that there are enormous opportunities in terms of performance payoffs for these manufacturers if this gap can be filled. These firms require practical assistance to upgrade their capacities in order to meet the expectations of their buyers and remain competitive in a global market where their market share is being eroded.

The main requirement is for the manufacturers to have information on what the best practices are so that they can make well-informed decisions on how to allocate their limited resources on HR. It is about helping them install the right systems and more rigorous processes. Below is a list of recommendations following the consultancy. They fall into 3 sections: survey, train and set standards:

1. **Survey:** Conduct an in-depth survey on the link between HRM and performance, in order to show the benefits of investing in HRM and to test which are the most effective HRM practices in the Indonesian context. (See Appendix E for the Draft Survey Instrument on Labor Policy, HRM and Performance, H. Lake/SENADA.) It will take 6 to 9 months for this data to be gathered and analyzed. The manufacturers cannot wait this long for assistance, so in the meantime they should be given information and training on recognized HRM best practices in manufacturing, derived from international studies and existing experience in Indonesia. See recommendation 3b below.

An attempt should be made, at least informally, within this survey process to gather some information from the workers themselves about how they respond to the HRM systems in place at their worksites. The main survey will be firm-level and respondents will be Factory Managers and HRD, but informal sessions with workers would add useful information to the process.

2. **Train:** The clearest area where SENADA can add value is in the provision of practical advice and tools to manufacturers. They need to understand the importance of complementary practices so that they do not waste resources. Implementing the wrong systems, in the wrong sequence or the wrong combinations could have opposite effects (e.g., training without retention policies). Some of the best practices may seem suited to larger establishments than those being targeted by SENADA, but there many are low cost versions of the best practices, based on the same principles, that can easily be implemented in the smallest establishments.

Provide a training program: A training program like the one already established by SENADA for the garment IVC: Garment Partnership Indonesia, is scalable. Once the format and content of the GPI training modules are set SENADA should consider a rollout of these modules to firms in the other IVCs. The vast majority of the training is relevant and transferable.

Provide a training manual: A short, easy-to-use manual on best practices in HRM and work organization would add value. In the interviews several factories specifically asked for more information on areas such as training and recruitment. Participants in the roundtable for furniture manufacturers in Surabaya also requested more information and a manual (see attached interview notes and Appendix B below). Training manuals in other areas, such as quality control or Six Sigma, should be produced to complement the training program in 2.b. above. Areas of most acute training needed:

- Data Monitoring and Production Planning. Disciplined use of fact-based, data-driven decision making is essential for raising productivity. As is typical in many of these industries in developing countries the level of data gathering, monitoring and analysis was usually extremely poor at the factories surveyed. Improvements in processes are hard to achieve if there is not careful measurement of data, allowing for benchmarking of performance over time. Factories need assistance in implementing better data gathering, monitoring and analysis programs to help them run their operations. This should be applied to target setting, production planning, line balancing and controls, quality control, performance monitoring and many other areas.

For example, targets are currently set at many factories using rough estimates, based on past experience at that factory. Such subjective data does not help managers improve as they cannot measure progress accurately nor pinpoint where problems are. Proper use of data and scientific target setting will lead to more accurate pricing. There are direct HR benefits, too. If targets are not set in a scientific and objective manner it can be very demoralizing for workers.

There are expensive technology-based solutions in the market to these challenges, but very few factories are able to afford the specialized training and software, such as real-time production monitoring systems, Six Sigma, or Global Sewing Data (used for target setting in garment production). However, there are a number of 'low-tech' alternatives that can be usefully applied and should be investigated and disseminated to the manufacturers.

- HRM and Working Environment: As has been discussed above, firms are missing out on productivity gains that could be achieved through more strategic use of HR and more advanced workforce management. Training is required in:
  - Recruitment, including interview methods, screening mechanisms, aptitude testing and proper personnel record keeping, etc.
  - Training systems management, including identifying training needs, types of training (e.g., quality control, supervisory skills, as well as other technical and non-technical areas), sources of training (e.g., agencies, private firms, institutes), and how to monitor and measure the impact of training.
  - Compensation, including financial/non-financial, and alternative performance pay methods.
  - Retention/motivation, including promotion, worker recognition and competition systems.
  - Communications, including unions, workers' committees, surveys, interviews and suggestion boxes.
- 5S/Housekeeping: 5S training is a pre-requisite to more complex lean manufacturing systems and would be a useful starting point to improvements for many of the factories surveyed. Several of the factories (e.g. Factory A and Factory N) failed compliance audits due to layout/safety issues and poor house keeping. The 5S concept is based around how the visual workplace can be utilized to drive inefficiencies out of the manufacturing process. 5S also has workplace safety benefits. 5S stands for the Japanese words seiri, seiton, seiso, seiketsu, and shitsuke, which roughly translate into organization, orderliness, cleanliness, standardized cleanup, and discipline. Alternative corresponding "Ss" have also been developed for the English language: sort, set in order, shine, standardize, and sustain.
- Quality control: Many of the factories visited need specific quality control training. Managers need to be instructed in TQM techniques to identify and address quality issues before they get too far down the production line and waste resources.

- Management: Many of the advances in HR require changes in methods and attitudes on the part of management. Instances of negative interactions between workers and supervisors, inappropriate communication (including verbal abuse) and harassment are commonplace in these manufacturing contexts. But managers and supervisors need support to make the change. Many require training in supervisory skills which include instruction on positive communication techniques, team building, motivation and cultural sensitivities where required. The supervisory skills training of the Global Alliance for Workers and Communities (GA) and of the ILO - IFC in Cambodia (IFC 2006) provide useful models.

Information on sources of training should be made available to manufacturers in the training program and through the manual(s).

- Secondment of staff to companies with more advanced systems, or to other countries or even other industries. Almost a quarter of the firms surveyed had utilized expatriates from sister companies or sent their managers overseas to other firms to be trained.
- Professional training organizations: SATRA and IGTC, GPI.
- Materials and equipment suppliers. These firms are often willing to provide training for use on their products.
- Buyers. Personnel at the brand name companies, including compliance officers, quality assurance officers and merchandisers, all have knowledge on best practices that can assist employers. Such knowledge encompasses ideas on improving: the working environment, HRM, quality control, production planning, and upgrading the capacities of vendors. This knowledge on best practices may be partial in some areas, but could be combined with information from other sources to provide enormous value to vendors. Buyers recognize that they are sometimes responsible for some of the HR problems in production, such as large amounts of overtime caused by late approvals and fabric delays from certified suppliers. Buyers also recognize that their compliance systems have been relatively ineffective in pushing improvements in factories (Locke 2007). As such, a number of buyers are now focusing their energy on vendor upgrading programs, including HRM programs (Ansett 2007). These initiatives should be harnessed for mutual benefit.

- 3 Set Standards:** Setting standards will improve the efficiency and hence the competitiveness of these industries. Employers should use skill standards to guide the hiring of new workers and compensate workers for skills acquisition. Differentiated pay scales by incoming skill level, production incentives, piece rates, performance-based compensation of new hires, and performance-based promotion of existing employees are some of the schemes employers may use to differentiate compensation by skill level in order to promote increased productivity.

The efforts of manufacturers cannot be done in isolation. In order for the standards to be meaningful, standards must be set and utilized throughout the workforce management process and across the industry. Effective standards will require support from government and education programs, as well as the establishment of a national qualifications framework.

SENADA should work with the BNSP to set industry wide standards. BNSP has already initiated a set of standards and certification for the garment industry in the form of ICA Garments but the process is cumbersome, involving unnecessary amounts of paperwork and prohibitive costs for the operators.

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# APPENDIX

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## A. ROUNDTABLE IN SURABAYA, JANUARY 24, 2008

Attendance:

- Oetarjo of Mitra Mandiri Perkasa
- Johanes Sumarno of Kurnia Anggun
- Shahputra of Sekar Jati
- Chilman of ASMINDO
- Jill from Katawara
- Nana from Accasia
- Sylvia from Mitra Binamandri Makmur

The consultant spoke for about 20-25 minutes on best practices in HRM (recruitment, retention/motivation, compensation and training). The audience was engaged and enthusiastic and the session continued for longer than anticipated.

Most of the attendees said that they knew they should be doing more to improve their HR but simply did not know what they should be doing, and often did not have enough time to find people to help them work it out. They acknowledged that labor productivity was one of their main constraints with price competition from China and Vietnam. Sylvia from Binamandri (1,400 workers and growing) said that she was trying to hire an HR development person at the moment and that she was looking to find someone who knew about these 'advanced', yet low cost, practices in HRM, but it was really hard. Requests were made for copies of the presenter's slides. These would be put on the ASMINDO website. They asked for more information and a couple of them requested a more detailed handbook on these HRM practices.

Some of the questions and topics that came up:

- How does Indonesia compare with other countries in terms of labor productivity? Please give us an index of productivity for our industry...
- How can we get our workers to work like the Chinese? Is it cultural?
- What kind of social compliance requirements are the buyers asking for? (Many knew about these standards but had turned down orders because they could not meet these requirements. They wanted more details on requirements and what the issues were.)
- Why do the buyers have a problem with the use of "too many" contract workers? What about contract work in other countries?
- How can the education levels of Indonesian workers be increased?
- Where could they find the right people to implement these HRM practices in their facilities - "the resource persons are very limited".
- What is more important - the psychology of the workers, compensation, religion.....
- How do you get teamwork to succeed? Does teamwork suit our culture?
- So much is cultural in Indonesia - how do you achieve "attitude adjustment" among the workers?
- What difference does playing music to the workers make?

## **B. ROUNDTABLE IN JAKARTA – FEBRUARY 6, 2008**

Questions or topics that were raised during the multi-stakeholder roundtable:

- Where do the best practices come from?
- Why don't employers want to adopt them, is it because of perceived costs?
- What can we do between now and 2009 to improve productivity while under the constraints of the existing labor regulations.
- There are laws on training investment but they are ignored.
- Need a better framework for industrial relations
- What is the role for government, labor force quality and education in this? They need to help to design and support a vocational training scheme.
- Problem of multiple unions at establishments – which unions have the right to represent workers' views?
- Problem with sub-contractors – they are under the radar.
- Workers like overtime (OT).
- What are comparative rates on OT between Indonesia and other countries?
- The costs for business are too high – employers do not have the ability to pay
- We need culturally appropriate studies.
- Reliable, comparative productivity data are hard to find.
- There is a real shortage of skilled labor, what do we do?
- There is more to productivity than labor productivity.
- If these policies make sense for business, why are more of them not doing it?
- What are the main obstacles to adoption of these practices by firms? How do we move from these traditional systems to more advanced systems? How do we persuade managers? We can tell them what the best practices are, but that does not mean they will adopt them.
- Do all these changes in HRM require investment in machinery – what is the link to technology?
- Do machines/capital investments determine the HRM? Which comes first?

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| Nike                                    | Buyer        | Herdi Oetomo   | Jakarta Stock Exchange Building,<br>Tower 2, 24 <sup>th</sup> Fl, Suite 2401,<br>Jl Jend. Sudirman Kav. 52-53, Jakarta<br>12190 | HP: 0815 1301 6044          |
| Adidas                                  | Buyer        | Harry Nurmansyah   | Plaza DM, 10 <sup>th</sup> Fl,<br>Jl. Jend. Sudirman Kav. 25, Jakarta<br>12920  | 021 522 9780                |

## **E. SURVEY DESIGN – LABOR POLICY, HRM AND PERFORMANCE**

### **OBJECTIVES**

This study seeks to examine the performance effects of human resource management (HRM) systems in the Indonesian garment, footwear and furniture industries. A large body of literature examines the performance effects of a firm's choice of employment practices (see Bibliography section). Yet the body of actual empirical evidence examining the productivity effects of work practices is limited, particularly in a context outside the developed world. This study addresses this gap by assembling a new data set to test some of the hypotheses that have been developed on the HRM-performance relationship.

### **RESEARCH QUESTIONS**

This study has three distinct but related areas of analysis that raise a number of key research questions. Firstly this study seeks to understand how Indonesia's 2003 Manpower Law is affecting companies, their decisions on resource allocation and their business outlook. Secondly, within the constraints of this regulatory regime this study seeks to ascertain how the Indonesian establishments are managing their human resources (HR) as embodied in the components and characteristics of their HRM systems. The main line of inquiry of this study concerns the sort of benefits firms enjoy from investing in their workforce, in a context where labor is typically considered a cheap and disposable resource within limited investment returns. If it can be shown in this Indonesian context that HRM has a tangible positive impact on the performance of firms then these assumptions will have to be reconsidered.

These 3 areas of analysis lead to the following research questions:

- What effect is the 2003 Manpower Law having on firms?
- What are the characteristics and components of the HRM systems in place at Indonesian garment, footwear and furniture manufacturers?
- What effect do particular policies and practices, and systems of practice have on performance?

### **SAMPLE SELECTION**

The unit of analysis for the study is the establishment, the actual assembly plant, rather than the firm. For research on HRM systems a number of authors recommend keeping the establishment as the focus (Wright and Gardener 2000). For example, Osterman (1994) warns of: "The risks inherent in surveys that rely on reports of corporate human resource personnel about practices in branch plants on the other side of the country." He adds; "The great advantage of surveying establishments, as opposed to firms, is that the respondent in an establishment is likely to know the facts".

The most recent registry of manufacturing establishments should be taken as the population of plants from which the sample is drawn. The sample should be drawn from The Directory of Large and Medium Manufacturing Establishments (defined as having 20 or more employees) that is overseen by the national statistical office (BPS). It contains the population of registered manufacturing establishments based on the national industrial census.

Within the population of manufacturing enterprises, 3 sectors will be targeted for the survey so that sector specific analysis can be carried out: garments, footwear and furniture. Once a filter has been

applied for these 3 sectors, the population should be reviewed to verify that it only includes those firms registered as having 20 or more employees. As the challenges facing micro-enterprises can be quite different, the sample should be limited to small, medium and large firms. 20 employees should be chosen as the cutoff as it is a natural breaking point in the classification of firms.

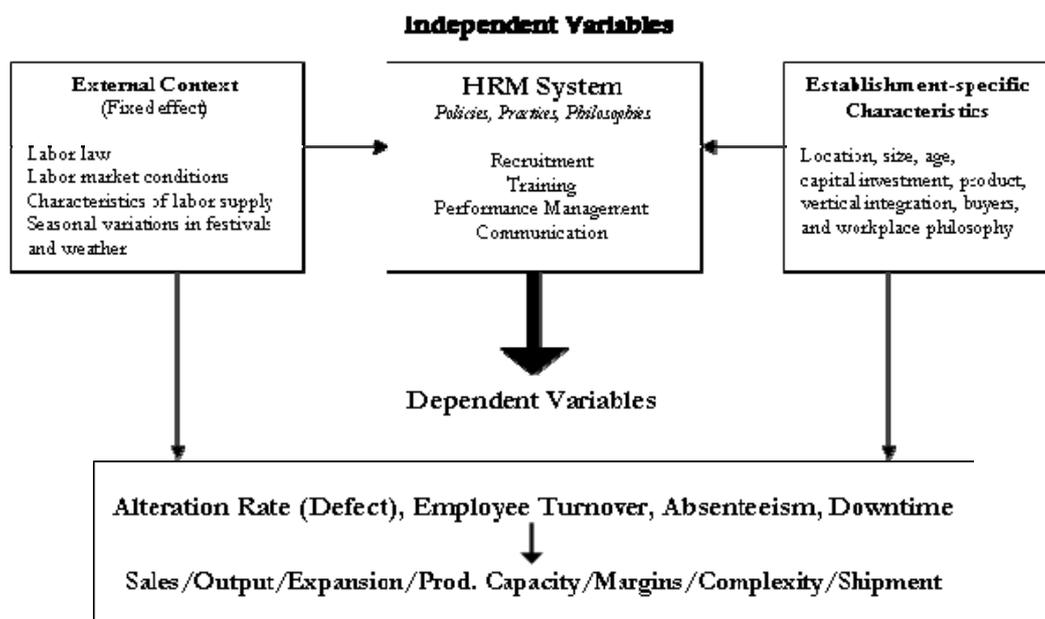
A second, geographical filter should then be applied to the populations. Each of SENADA’s value chains is concentrated within the island of Java. In order to maximize the resources available to the study process only firms based in Java should be selected.

From the pool of firms with 20 or more employees in the chosen sectors in Java, establishments should be drawn randomly. The priority is to have a representative sample so that the conclusions can be applied more broadly than if only the top performers were surveyed. If samples are chosen from industry associations or SENADA’s database of firms, significant selection bias will become a challenge for the researchers.

## HYPOTHESES

This study is a theory-testing piece of research, and more specifically ‘theory tracing’ in the context of the Van Evera (1997) and Mahoney (1999, 154-196) typologies. The causal link between HRM systems and performance is being examined and evidence is being sought for its effects.

The figure below maps out the determinants of performance and shows the process that is being traced in this study; the relationship between the independent variable of the HRM systems in place at the apparel establishments and the dependent variables of defect rate, employee turnover, absenteeism and downtime. It also shows the secondary dependent variables: sales, output, establishment growth (no. employees), production capacity, margins, product complexity and shipment deadlines.



The primary hypothesis to be tested is: Advanced HRM systems deliver higher production efficiencies than traditional approaches. A simplified overview of traditional versus advanced practices is described below:

| <b>Traditional</b>                         | <b>Advanced</b>                   |
|--|-----------------------------------|
| Fordist approach                           | High Performance Work Systems     |
| Non-selective recruitment                  | Selective recruitment             |
| De-skilling                                | Up-skilling                       |
| Limited training/on the job training (OTJ) | Cross training/job rotation       |
| Narrow job definitions                     | Team building                     |
| Strict work rules                          | Decentralizing of decision-making |
| Hourly pay                                 | Incentive pay                     |
| Close supervision                          | Worker participation              |

If the hypothesis is proved, lower levels of alteration rate, employee turnover, absenteeism and downtime will be observed among establishments that have more innovative and advanced HRM systems. If the hypothesis is disproved, the data will be explored looking for congruence and incongruence between expectations and observations. We will be looking to see if the data supports the proposition that a firm could recover some of the costs of investing in advanced workplace practices by reaping the rewards of higher efficiencies generated by those changes. The widely held assumption is that in a country such as Indonesia, where labor is so comparatively cheap, the benefits of investing in a workforce in this industry are negligible.

At the same time data will be collected on the establishment's changing level of output, sales, production capacity, margins, expansion or retrenchment. Information will also be sought on the changing level of product complexity, which reflects the skills of the workforce and the prices/margins that the establishment is able to secure. Finally, data on missed shipment deadlines will be added because this gives an overall indicator of the efficiency of the production processes. The research team will be looking to see how these secondary dependent variables are correlated with the HRM systems. A causal relationship will not be able to be established between HRM and these variables because other factors, in addition to HRM, influence their outcome.

But being able to establish any correlations between these variables and HRM will still be instructive. The other area of analysis that will be examined during this study is the impact that the 2003 Manpower Law is having on firms. The hypothesis is that the 2003 Manpower Law is increasing the use of contract labor by establishments, which has negative implications for spending on training and Indonesia's longer term human capital accumulation. Data will be collected on the use of contractors and how this has changed since the introduction of the law. Informing this area of analysis will be the information collected on the establishment's overall performance (e.g., sales, output, etc.) and wage information.

## **CHOICE OF VARIABLES**

The primary purpose of this study is to examine the relationship between the HRM system and the four primary dependent variables, as shown above.

### **INDEPENDENT VARIABLE**

The independent variable in this study is the HRM 'system' in place at each manufacturing establishment. The HRM system is comprised of the policies, practices and philosophies that establishments use to extract the optimum performance from their workers. By using the term system, it is implied that there is some sort of internal logic and consistency to the policies and practices chosen by the establishment.

The HRM system consists of 4 broad areas of HR policy and practice:

- Recruitment
- Training
- Performance Management (retention and motivation strategies)
- Communication

Detailed information on these 4 areas will be collected in order to fully describe the different approaches that establishments take to managing their workforce. The recruitment policy aspects include measurements on the amount of screening done on new hires, while the training element includes everything from OTJ technical training for production workers to management training for supervisors. The performance management variable incorporates details on the use of performance pay and benefits to encourage retention, while communication includes a gauge on the amount of information shared with the workers, workers' capacity for voice and the general data management abilities of management.

The HRM systems are determined by a number of external fixed effect and factory-specific variables as shown in the figure above. These external and establishment specific variables not only contribute to determining the HRM system in place, but also impact performance directly and so will need to be held constant during an evaluation of the primary relationship to be tested: HRM on performance.

### **DEPENDENT VARIABLES**

The 'performance' of an establishment can be measured in many ways. In much of the literature examining the performance effects of HRM the dependent variable is the overall 'productivity' of the firm or the impact on the bottom line. Although these are valid and commonly used outcome indicators, Paauwe (2004) and others have argued for a multi-dimensional approach to performance which allows for measures of the impact of HRM to move beyond financial concerns. Indeed the traditional performance indicators of productivity and competitiveness generate challenges in this context because there are so many intervening variables, other than HRM, which influence the overall profitability of the firm. These include the efficacy of the firm's logistics, input costs, access to finance and external market conditions to name just a few. Many of these data are simply not publicly available, nor are they collected by the establishments themselves.

This study therefore seeks to examine the relationship between HRM and 'productivity' at an earlier stage in the production process and before these other intervening variables come into play. In the context of this study 'productivity' is measured using outcome indicators in which the effect of HRM systems is most tangible and direct.

There are 4 primary dependent variables in this study:

- Defect rate (in-line and consignment)
- Employee turnover
- Absenteeism
- Downtime

All things being equal, lower rates of defects, turnover, absenteeism and downtime all else being equal, raise an establishment's performance.

- **Defect Rate.** There are many different ways for an establishment to measure product quality. These quality measurements can be taken at various stages in the production process. For example, the first quality checks are conducted for defects on the materials when they first arrive in the warehouse, while the last, known as the consignment defect rate, are performed in the finishing section in the last stages of production. The consignment defect rate represents the number of defects found once the product has already been filtered at least once, reworked, packed and are ready for shipment. The overall defect rate of 'work in process' usually incorporates defects due to worker error and materials defects such as stains or snags which are not the fault of the operator.

In this study two defect rates will be collected, the consignment defect rate and the alteration rate. The alteration rate will be particularly important because these are defects which are due to worker error and are related to the HRM systems through training and retention policies. The alteration rate is the defects per hundred pieces (DHU) taken at the end of the line. It is a record of the number of pieces that can be altered or reworked because they were caused by worker error. The alteration might be made on the main assembly line and by the operator who made the fault or it might be made on a dedicated 'rework' assembly line.

- **Employee Turnover.** Employee turnover is defined in this context as the ratio of employees leaving the establishment in any given month against the total number of employees on the payroll that month.
- **Absenteeism.** Absenteeism was chosen as a complimentary additional outcome indicator to employee turnover. In a mass production environment it is important that workers turn up for work on time so that the production lines can start on time and do not become 'un-balanced'. Low levels of worker absenteeism are taken to be indicators of a dedicated and healthy workforce. The assumption here is that if absenteeism levels are high workers are either not committed enough or do not have the resources to get to work efficiently or are too unhealthy to do so. These indicators are related to the HRM systems as much as the provision of free transport and payment of incentives and healthcare benefits should influence these behaviors.

- **Downtime.** Downtime was chosen as the last primary dependent variable because it is an important contributor to production efficiency. Downtime is the amount of time that the production lines are not operating while there is a changeover between styles/products on the line. Downtime can refer to a wider definition of stoppage time due to machine breakdown or logistical problems such as delays in input arrivals. But the definition of downtime in this study will be limited to changeover time because this is more closely linked to HRM. Data on several other secondary variables will also be collected:
  - Increasing/decreasing sales
  - Increasing/decreasing output
  - Increasing/decreasing margins
  - Production capacity utilization
  - Ability to meet shipment deadlines
  - Product complexity
  - Yield (for furniture companies)

These secondary dependent variables are being collected because they give an overall indicator of the establishment's health. They are not the primary dependent variables because factors other than HRM influence their outcome. However, this study will test whether these indicators are correlated with differences in HRM systems.

The dependent variables were chosen because they represent some of the primary indicators that the establishments use to measure their own performance.

## DATA COLLECTION AND ANALYSIS

The primary research tool used to gather the cross sectional data for this study is a 3-part survey instrument used to identify the characteristics of HRM systems, the diffusion of their practice and the performance outcomes (see Attachment A for the survey instrument). The survey will be conducted in person by a team of local researchers.

The survey was designed to elicit information on the variables that determine performance shown in the figure above. With regard to the aim of building a rich description of the HRM environment, most variables will be collected for the entire establishment. But emphasis will be placed on collecting data for the *core* production employees, rather than the *staff* who perform administrative tasks at the establishments. The core job is defined as the largest group of non-managerial workers at the establishment who are directly involved in making the product at the establishment. No single answer regarding, for example training, is likely to be applicable to all occupational groups within an establishment. Where appropriate the survey questions should disaggregate the responses between managers, supervisors, operators, packers and helpers.

One of the methodological concerns in this type of research is the possibility of respondent bias because many studies issue questionnaires to HR managers who may be more likely to report positive associations between HR practices and performance, and may not have the required knowledge to comment on performance across different levels of their organization (Arthur 1994; Huselid 1995; MacDuffie 1995; Purcell 1999). Osterman (1994) describes how in his research considerable thought went into the selection of respondents; "Although in many cases a human resources person might be appropriate, automatic selection of people in this position was avoided.

Years of open-ended interviews with firms suggested to me that too often HRM staffs, even at the establishment level are not in touch with work organization”. For these reasons in this study multiple personnel at each establishment were interviewed, and responded to the survey according to their own particular area of expertise and responsibility. The Production Manager responds to questions about technical training and measurement issues, the Factory Manager answered questions about sales, output, buyers etc, while a representative from Human Resources addresses payroll and recruitment issues.

Once data on the independent and dependent variables have been collected, analysis will be conducted to study the relationship between the different HRM systems and each of the production efficiency indicators using regression analysis.

The term HRM *system* implies that there is some sort of ‘fit’ required between the HRM policies and practices in place at an establishment and its organizational and strategic priorities. As well as the relationship between the independent variable and the 5 main dependent variables, the interaction effects between elements of the HRM systems will be examined for complementarities and substitutability. For example, in the context of manufacturers in Indonesia one would expect different strategies between those establishments that recruit predominantly inexperienced workers and those that recruit only experienced workers. Such strategic decisions will be examined to see how well they fit with the HRM systems in place.

## **PHASES OF THE RESEARCH**

The research will be divided into several distinct phases:

### **Phase 1 - Planning**

1. Draft survey instrument
2. Finalize the specifications of the research proposal

### **Phase 2 – Appointing Research Team**

1. Send out Request for Proposals (RFPs)
2. Receive and review RFPs
3. Appoint research team

### **Phase 3 – Pilot Survey**

1. Carry out pilot to test survey instrument
2. Review results of pilot
3. Amend survey instrument as required

### **Phase 4 – Survey**

1. Carry out survey at establishments in selected sample set
2. Carry out quality control of survey methods

### **Phase 5 – Analysis and Report**

1. Clean data
2. Perform regression analysis
3. Report results

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## F. ATTACHMENT A: SURVEY INSTRUMENT

### Factory Manager

1. What is your main product? \_\_\_\_\_
2. What % of your product is exported? \_\_\_\_\_
3. Where are the majority of your buyers located?  
United States  Europe  Middle/Far East  Japan  Australia
4. Does any one buyer take up 50% or more of your production capacity?  
b) If yes, which buyer is this? \_\_\_\_\_
5. Are you operating at full capacity?  
Yes  No   
If not, at what level of capacity have you been operating at over the last 3 months?
6. When operating at full capacity for this establishment's primary product what is monthly output (volume)?
7. Have your sales increased, decreased or stayed the same over the last 5 years?  
Increased  Decreased  Same   
By what % \_\_\_\_\_
8. Have your margins increased, decreased or stayed the same over the last 5 years?  
Increased  Decreased  Same   
By what % \_\_\_\_\_
9. Does your primary product have more, less complexity, compared with 5 years ago?  
More complex  Less complex  Same
10. How often does the availability of accessories and other inputs slow down production?  
Never  Rarely  Few times a year  Monthly  Weekly
11. How often do you miss shipment deadlines?  
Never  Rarely  Few times a year  Monthly  Weekly
12. Has the 2003 Manpower Law affected your company?  
Yes  No   
If so, in what way? \_\_\_\_\_  
Slowed/stopped hiring  Outsourced hiring  Foregone sales

## Survey HRD

### General

1. How many people are currently on this establishment's payroll? \_\_\_\_\_
2. What percentage of the *production* workers are contract workers? \_\_\_\_\_
3. Five years ago how many people were on the payroll? \_\_\_\_\_
4. Five years what percentage of the *production* workers were contract workers? \_\_\_\_\_
5. What % of production workers receive Jamsostek? \_\_\_\_\_
6. What is the establishment's average monthly turnover? \_\_\_\_\_
7. What is the establishment's average monthly absenteeism? \_\_\_\_\_
8. When workers leave do you pay severance?  
Yes  No

### Recruitment

9. Approximately how many other factories in the same industry are there in the immediate vicinity? (within half a kilometer)  
None  2 to 5  More than 5  More than 10
10. How many days does it take on average to fill a vacancy? \_\_\_\_\_
11. What percentage of new hires have no experience?  
10%  20%  25%  50%  75%
12. What percentage of new hires had no experience 5 years ago?  
10%  20%  25%  50%  75%
13. Do you require production workers to take a recruitment test? (aptitude test)  
Yes  No
14. Do you interview workers for particular characteristics?  
Yes  No
15. Do you have a minimum level of education for any *production* workers?  
Yes  No   
If yes, what level and which workers? \_\_\_\_\_

### Compensation

16. What is the average **monthly base pay** of the following workers:  
Manager ..... Supervisor ..... Operator ..... Packer..... Helper.....

17. What is the average **monthly total pay (including financial incentives and overtime)** for these workers:

Manager .....Supervisor ..... Operator ..... Packer..... Helper.....

18. Is a financial incentive paid to production workers who meet or exceed their production target?

a) Yes  No

b) If yes, is it tied to individual performance?

Yes  No

c) And/or group performance?

Yes  No

d) If yes, what % of workers receive this financial incentive?

10%  20%  25%  50%  75% or more

f) If yes, are these financial incentives conditional on quality?

Yes  No

e) If no, have you tried financial incentives in the past?

Yes  No

19. Do you offer *production* workers:

a) Subsidized/free meals?

Yes  No

b) Subsidized/free transport?

Yes  No

c) Loans?

Yes  No

20. Do you have a monthly attendance bonus?

Yes  No

21. Do you offer prizes to workers, best team, best line?

Yes  No

If yes, list \_\_\_\_\_

How often are these awarded? \_\_\_\_\_

22. How often do you do performance appraisal?

Ad hoc  Annual  Bi-annual  More than bi-annually

23. Do you use NGOs to do any training?

a) Yes  No

24. Do you have any of the following at this establishment?

i) Union

Yes  No

ii) Workers' committee

Yes  No

iii) Suggestion box

Yes  No

## Survey – Production Manager

### Training

1. Do you conduct induction training?  
Yes  No
2. Where does new hire training take place?  
In-line  Training line, on production floor  Away from production floor/training centre
3. How long is the training for new hires?  
1 day  2-3 days  1 week  2 weeks  2 weeks-month  More than a month
4. On average how many hours of training does a new hire require? \_\_\_\_\_
5. On average how many hours of training do experienced workers receive per month? \_\_\_\_\_
6. What % of supervisors received training in last 12 months?  
10%  20%  25%  50%  75%
7. What % of production workers received training last 12 months?  
10%  20%  25%  50%  75%
8. Do you give self-QC training to production workers?  
Yes  No   
If yes, what % of production workers received self QC-QA training in the past 12 months?  
10%  20%  25%  50%  75%
9. Do you do training:  
On a pre-set schedule  Ad hoc (@ batch setting)  When supervisor recommends
10. What percentage of your training is done by in-house staff (supervisors, HRD etc) vs. external trainers?  
In house is: 10%  20%  25%  50%  75%
11. Do you offer management skills or attitudinal training for supervisors?  
a) Yes  No   
b) If yes, what % of supervisors receive this training?  
10%  20%  25%  50%  75%
12. What proportion of your supervisors were formerly machine operators (ordinary production workers) at this establishment?  
10%  20%  25%  50%  75%

### Quality

13. What is your average yield? [*For furniture companies*] \_\_\_\_\_
14. What is your average monthly in-line defect rate? \_\_\_\_\_
15. What is your average monthly shipment/consignment defect rate? \_\_\_\_\_
16. Do you track alteration/defect rate for individuals?  
Yes  No

17. Do you post markers or flags on individual workstations indicating quality?

Yes  No

18. Location of QCs and checkers:

% In-line..... % In Finishing..... % Other (roving).....

19. Do you use Total Quality Management System?

Yes  No

20. Do you have production meetings with all production workers:

At the beginning of a new style/product  Regularly during the production run

21. Does this establishment post markers or flags on individual workstations indicating productivity?

Yes  No

22. Does this establishment post markers or flags over batches/lines indicating productivity?

Yes  No

23. Do you have any expatriate staff working in production (supervisors, floor managers)?

Yes  No

If yes, where are they from? \_\_\_\_\_

24. On average how long is down-time/changeover time between styles/orders? \_\_\_\_\_

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