

Mismatch in the Design of Performance Measures: A Solution for Managing Conflicting Organisational Goals

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Abstract

This paper examines the economic rationale behind an unusual field study finding with the help of agency theory. Why would a firm evaluate employees on one measure but reward them on the basis of another conflicting measure? The paper adopts Yin's (1994) scientific case study approach to identify practical reasons from a division of a single firm.

The analysis points to the firm's inevitable need to control two potential opportunism sources namely, information-hiding and delaying (or 'go-slow') as the primary reasons for the deliberate design of such mismatching measures. Finally, the firm exploits the economic power of the customer satisfaction measure, whose subjectivity and informal design helps offset the negative effects of the goal conflict.

While the extant literature identifies two types of measurement mismatch, this paper documents the prevalence and management of a third type namely, deliberate design of mismatching measures for conflicting goals.

Keywords

Performance Management
Agency Problem
Performance Evaluation
Rewards
Goal Conflict
Measurement Mismatch

Introduction

While doing a pilot study on product customisation in Skope Industries Limited, a leading New Zealand-based producer of commercial refrigerators, we noticed that the firm has two separate product-line divisions based on the source of customisation, with different performance management systems for each division. The first division designs and produces *firm-specified* products, a context in which the firm offers a range of existing customised models and options. To make any firm-specific product, employees have full access to the product specifications and process knowledge from the firm's documentation. The second division manufactures *customer-specified* products, for which the firm first assesses the technical feasibility upon receiving a customer order before proceeding to develop a specialised design for each order. While the pre-existing product and process knowledge enables easier programming of operational tasks in the first division, the absence of any pre-existing documentation in the second division makes task planning less programmable and more complex.

In examining the detailed features of the performance management systems, we observed that within the customer-specified division, the measures used to evaluate workers' performance are distinctly different to the measures used for reward purposes. While the operations manager uses adherence to new customer order specifications (*ADSPEC*) and lead time in delivering the order (*DETIME*) as measures for evaluation, he uses number of new projects (*NUMPRO*) as the measure for rewards. Finally, though Skope adopts two subjective indices, (1) commitment and aptitude for assuming challenges, (2) customer satisfaction, they are not included as formal measures: neither for evaluation nor for reward purposes. While commitment is emphasised in manager-worker discussions during the selection and retention process (with information obtained through peer-worker feedback and by overall performance appraisal by the human resources (HR) division, as explained in a later Section), customer satisfaction data is obtained through a register wherein customers, if they wish, can record their feedback.

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The observed mismatch between the measures used in performance evaluation and incentive compensation seems unusual for two reasons. First, in line with the common knowledge management adage, “what gets measured gets noticed but what gets rewarded finally gets done”, these measures may lead to divergent goals. While workers may be keen on procuring new projects so as to increase their own utility, the manager may also be keen on achieving *ADSPEC* and *DETIME* for the existing projects. Second, the observed mismatch is different to the two mismatching measurement types already documented in the existing performance management literature namely, 1) different weights and 2) selective focus (Baiman, 1990; Brickley, Smith and Zimmerman, 2008; Holmstrom, 1989; Ittner, Larcker and Rajan, 1997).

In the first type, though the same set of measures are set for both evaluation and reward purposes, specific weights are assigned to the measures in determining the rewards. The use of weights in this performance measurement type allows managers to implicitly define a firm’s priorities and gain workers’ attention to address those priorities. In the second type, since only some measures are used for rewarding from a suite of measures identified for evaluation, the firm’s expectation is that performance will maximise in the selected measures but remain at the minimum threshold in relation to the other measures. However, unlike these two types, the observed measurement mismatch in this paper is likely to create goal divergence because of conflicting interests between managers and workers. Since this type of mismatch is not still documented, we believe that any evidence on how the divergence is managed in the real world will contribute to the existing literatures on performance management and knowledge management. Although this paper draws upon ‘product customisation’, it is merely used as a context to inform the two stated main literatures.

While this paper’s focus is on Skope’s customer-specified division, reference is also made to the firm-specified division to triangulate evidence about the customer-specified division. While the measures used for evaluation in the customer-specified division differ from the measures used for rewards, the measures used in the firm-specified division are identical for both

evaluation and reward. The presence of diverse practices in two divisions of the same firm lends support to the view that the observed mismatch in the customer-specified division is not just a random occurrence, but more a deliberate design of performance measurement.

The aims of this paper are therefore two-fold: 1) to understand the field study evidence as to why such mismatch exists and how the firm aligns the resultant divergence in the goals of managers and workers; and 2) to explain the case evidence in order to expand the theoretical horizon upon which future empirical research can be based (known as ‘analytic generalisation’, see Yin, 1994, pp. 35-40).

Going beyond the firm’s cost-based justification for the mismatch in the design of measures between evaluation and reward, our analysis points to the firm’s necessity to control two potential opportunism sources namely, information-hiding and delaying (‘go-slow’), that arise with product customisation-led conflicting goals, as the reason for the mismatching design. These goals are to adhere to the initial specifications agreed with customers while at the same time encourage workers to identify value-adding innovation during the course of production, even if the innovations require the firm to violate the initially agreed specifications. What is the incentive for the worker team to reveal its knowledge on the project’s innovation potential, particularly when the team’s reward is based on achieving the *ADSPEC* and *DETIME* measures that are set initially? Even if the workers commit to do further innovation, what is the guarantee that they will not unnecessarily delay the project in the pretext of continuing innovation? Is there any significance in the use of informal subjective measures in mitigating the divergence due to the mismatching measures? To find answers to these performance management questions, it is vital to examine and document what firms such as Skope do.

The remainder of the paper is as follows. The next section describes the unusual finding: the mismatching design of measures at Skope’s customer-specified division. The paper then analyses the field study findings before setting out conclusions and study limitations.

Field Study Findings

Company Background

Skope employs over 400 people in its main Christchurch factory to design and manufacture commercial refrigerators and markets them across New Zealand, Australia and the Middle East. The processes are briefly stated as follows. First, steel sheets are sheared and punched automatically by the flexible manufacturing system (FMS) that processes input data from the computer to determine the set-up, quality and quantity parameters. The punched sheets are folded into the semi-automated press for the folding process. The sheets then pass through the paint line process and are then sent to the assembly section. The assembly section comprises a range of activities. The sheets are insulated with non-polluting chemicals in a ‘foaming’ process. The doors and ducts are assembled to the sheets to make ‘skeleton’ refrigerators. The skeletons are then mounted with compressors. The refrigerators are finally examined in the testing station and forwarded to the packing station. In short, five main processes exist in Skope’s manufacturing operation: punching (FMS), folding, painting, foaming and assembly.

Early in 2000, with increasing competition and the need to customise products beyond the firm-specified product range and options, Skope created an exclusive customer-specified division within the main factory where all of the five processes were carried out within the same division¹. Initially, ten key workers were identified and trained in several processes and assigned to this division. Over time, ten further employees were hand-picked for this division from both internal and market sources.

Although it is a small unit within the main factory, this division is accorded a status worthy of a research and development unit because the new product models created in this division become the feeder for the factory’s list of firm-specified models. The general manager recognises the main factory as one large firm-specified division consisting of five process departments.

¹This structure is called the “factory-within-a-factory” within the operations management literature (see Miltenburg, 2008).

Reporting Structures

Three general managers (human resources, finance and plant) assist the managing director who is also in charge of Skope’s marketing function. Several middle-level managers report directly to the three general managers. The managers of design, computing services, maintenance, manufacturing, and technical development report to the plant general manager.

The manufacturing function is headed by an operations manager under whom more than 160 (including casual) workers are employed in various manufacturing processes. First, both divisions are overseen by the same operations manager. However, as the firm-specified division is too large for efficient span of control, a process leader is appointed for each process department to collect and provide output information to the operations manager.

Further, a group of these processes are managed by a team leader. For instance, the paint line, FMS, steel store and folding process are coordinated by one team leader. The team leader reports directly to the operations manager while a process leader reports to both the team leader and the operations manager. Though the customer-specified division carries out all the process functions in one place, the division’s functions are coordinated by one process leader, who reports directly to the operations manager.

Three visits were made to the Skope’s factory in Christchurch. The purpose of the first visit, was to gain an overview of the production process. This was followed with the two further visits to conduct interviews, collect archival documentary evidence, and observe practices. Table 1 lists the interviews and Tables 2 and 3 list the archival documents and observations at Skope.

Customer Order Processing

Upon receiving a new order for a customised refrigerator, the plant general manager discusses with the operations manager and the process leader (who represents all workers) to determine if the customer-specified division is capable of manufacturing the order. If the order is accepted, the details are forwarded to the division workers, who identify a list of manufacturing tasks relating to the order. The

process leader forwards the task list to the operations manager and discusses each line item in the list with the operations manager before executing the tasks along with his fellow workers.

Table 1: Interviews Conducted

| | Interviewees | Duration (minutes) |
|-----|-----------------------------|--------------------|
| 1. | Chief Executive Officer | 90 |
| 2. | Plant General Manager | 90 |
| | | 60 |
| | | 30 |
| 3. | Operations Manager | 120 |
| | | 30 |
| 4. | Maintenance Manager | 30 |
| 5. | Process Leader (worker) | 60 |
| | | 60 |
| 6. | Design Manager | 60 |
| 7. | Presiding Officer- HR | 60 |
| 8. | Human Resources Advisor | 30 |
| 9. | Presiding Officer-Finance | 60 |
| | | 60 |
| 10. | Purchase Manager | 75 |
| | Total interview time | 915 |

The process leader admits that he constantly faces uncertainty in carrying out the tasks for each new order, which in turn, makes the division workers highly dependent on one another. The process leader admits:

“If someone gives us a job, we never think that it is too hard ... The more the challenges that we get chucked in, the more closely we work (to resolve).”

This is in direct contrast to the practice in the firm-specified division where the knowledge relating to technical and financial details of different product models are published in a brochure called the *Cool Book*. This knowledge enables potential customers to assess the functionalities of different options and choose their desired requirements.

The financial details in the *Cool Book* provide information on prices, based on cost-plus method. The firm-specified division thus clarifies all available model and option details prior to entering into contract with its customers. As the knowledge is already

assembled for later use by the transacting parties, the production or task-related uncertainty is lower in firm-specified division.

This is confirmed by the operations manager as under:

“In a firm-specified product, there is a design before it (an order) is accepted ... my first consideration is down to (knowing) what is actually required, what the product is designed to do and what functionality... because we are operating a number of different cells (processes), I oversee (the workers’ tasks) to ensure that the tasks do not adversely affect another process.”

Comparing the order processing activities in the two divisions, we find differences in terms of documentation, and planning timeline. While the *Cool Book* dictates all technical and cost details of each firm-specified order, there is no pre-existing documented knowledge equivalent of *Cool Book* for a customer-specified order.

While the activities for firm-specified orders begin *ex ante* (before getting customer orders), interview evidence suggests that most of the activities in the customer-specified division are planned *ex post* (after receiving customer orders).

Our observations also suggest that the customer-specified division, unlike its counterpart division, undertakes all activities in its own division including design, manufacturing and assembly, though it interacts with other process departments to resolve any technical snags.

Measures for Evaluation and Incentive Compensation

The operations manager uses ‘job plans’ to derive benchmark measures in evaluating the overall performance of the customer-specified division. The job plans list the resources required for a job, the expected unit costs for each resource and the total job costs. The operations manager uses measures from the job plan such as *ADSPEC* and *DETIME* for each job to evaluate the overall performance of the division.

Table 2: Archival Documents Analysed

| | Document | Source |
|-----|-----------------------------------------------|---------------------------------|
| 1. | Position Description: Process Leader (worker) | Skope Custom |
| 2. | Position Description: Team leader | Skope firm-specified division |
| 3. | Position Description: Process Leader (worker) | Skope firm-specified division |
| *4. | Incentive Memorandum | Skope Custom |
| *5. | Incentive Memo: Performance targets | Skope firm-specified division |
| 6. | Skope Organization Chart | Skope intranet |
| 7. | Skope HR Manual | Skope intranet |
| *8. | Skope Pay and Skill Matrix | Skope firm-specified and Custom |
| *9. | Variation to Employment Contract | Skope Custom |
| 10. | The Skope Cool Book | Skope firm-specified division |

* Documents are confidential but a 'disguised' copy of these documents is available with the lead author.

Table 3: Direct Observations and Informal Discussions

| | Duration (minutes) | Activity | Note |
|----|--------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 1. | 120 | Manufacturing operations | 1) Skope firm-specified division for 60 minutes and 2) Skope Custom for about 60 minutes |
| 2. | 45 | Informal discussions | Plant manager: Understanding Cool Book |
| 3. | 30 | Informal discussions | Firm-specified engineer: layout structure |
| 4. | 60 | Master scheduling process | Operations manager: Firm-specified division. |
| 5. | 45 | Non-participant observation in customer order planning meeting | Skope Custom: Plant manager, Operation manager, Skope Custom headworker |
| 6. | 60 | Informal discussions | Skope Custom headworker: Comparison of work with firm-specified division |
| 7. | 45 | Informal discussions | Skope firm-specified division: Operations manager: Accident causes and Quality control problems: learning for future |

The process leader's position description provides evidence.

“Design and develop new refrigeration products and components and enhance existing refrigeration products and components; participate in and coordinate your team's efforts to ensure 'established time frames' and 'specific customer requirements' for each customer job are met.”

*[Position Description: Product development
Title: Process Leader – Refrigeration Customs
Key Responsibilities and Expected Outcomes]*

The phrases 'established time frames' and 'specific customer requirements', correspond to the theoretical concepts of the scheduled lead time in completing a job and adherence to specifications, respectively. These job-plan measures capture the overall team

performance in the customer-specified division. Since individual performance is difficult to segregate in teamwork, the operations manager claims that the use of subjective indices (e.g., commitment and aptitude for challenges) helps ensure that individuals perform in line with the managers' expectations.

Though we could not find any direct evidence for the use of subjective performance measures in the workers' position descriptions or other internal documents, our analysis suggests that Skope uses subjective measures in several informal contexts. For instance, when the customer-specified division was initially formed, a few workers who were in the firm-specified division for a long time and acclaimed by peer-workers as inspiring and challenge-seeking mates were 'hand-picked' for the new customer-specified division. However over time, for subsequent appointments to the new division, the operations manager depends on feedback from Skope HR advisor's general appraisal of individual workers carried out each year.

The HR appraisals are carried out in two stages: first, a *self-assessment survey*, which mainly consists of individual workers' open-ended explanations of specific instances of learning and unlearning experienced during the year. Second, using such surveys as the basis, the HR advisor (and few of her trained staff) conduct *interviews* with the workers to identify their specific traits and match it against their current pay-scales. Though we were not part of such interviews (due to privacy law restrictions) to observe how the HR staff extract relevant aptitude-related information from the interviewees, the HR advisor admits of her ability (due to skill and experience) to build on-the spot *cross-questions* and assess the veracity of the interviewee responses. Thereafter, she refers to the pay and skills matrix (item 8; Table 2), which matches required skills with salary increments to determine their future pay-scales.

We now move to the choice of measures used for determining rewards. The internal memo on incentives issued to the customer-specified division's process leader provides evidence.

"You are offered the opportunity to participate in an incentive based on the number of

refrigeration custom cabinets produced in the customs area. For the current financial year, you will be paid \$x (actual amount concealed upon firm's request) gross for the first significantly unique prototype cabinet produced and \$x-20 gross for each cabinet produced thereafter (implying repeating a customer-specified order for the same customer in the next period)...Signed..."

[Incentive Memo. Customs Refrigeration Department]

Note that the memo does not mention the evaluation measures of *ADSPEC* and *DETIME* but instead refers to a totally different measure namely, the number of new prototypes (*NUMPRO*). The concern is whether achieving the targets under *NUMPRO* would enhance *ADSPEC* and *DETIME*. Further, questions arise as to why the firm bases its rewards on *NUMPRO*, instead of the job-specific measures.

Theoretically, *NUMPRO* a period-based measure, may not correspond with the job-specific measures of *ADSPEC* and *DETIME* and the individual-based subjective indices. Though the incentive contract contains a protective clause which states that "Skope retains the right to reverse the payment, if deemed appropriate", the central question as to why there is a mismatch in the design of its performance and compensation measures, still remains valid.

Data Verification

Prior to moving to theoretical analysis, we seek to rule out chances that this observation could have been a mistake or a mere random occurrence. We first verify whether any detailed (instead of overall job or period-based measures) measure (e.g., labour hours expended on a task) is relevant for the customer-specified division. The purpose is to gain conviction that the choice of overall measures used in the customer-specified division is not because of inadequate planning but more of a deliberate choice. According to the operations manager:

"Specific measures (e.g., task standards) are totally irrelevant. If a task standard (e.g., number of units made) is a measure you put on them (customer-specified division workers), then they might look at a job or enquiry (and

decide) that it is too much work and take only the easy ones (an example of opportunism). So suddenly, we will end up with a whole lot of components (for different orders) and we will not meet the customer needs (relating to lead time for any job).”

Next, we examine the choice of measures for evaluation and incentives in the firm-specified division. The objective is that if the neighbouring division within the *same* firm adopts a consistent set of measures for both evaluation and reward, then there is a greater reason to believe that the observed mismatch in the customer-specified division is a deliberate design and not just a random occurrence.

For the firm-specified division, the operations manager and the plant general manager refer to three performance areas namely, safety, quality and productivity. Specific measures are developed for each area. Safety is evaluated for the overall plant through a quantitative measure, ‘lost time injuries’ (LTI). This measure captures the number of times in a month that the factory work was disrupted because of an injury. Quality is assessed with a single financial measure, cost of quality (CoQ), which is defined as manufacturing costs incurred that cannot be recovered due to wastage. As wastage in any process is ‘treated’ before transferring it to a succeeding process, each process is held accountable only for its own performance in terms of wasted units. While safety is a plant-wide measure, quality is a process department-based measure.

For productivity, the operations manager relies on measures such as units produced (e.g., number of folds per day) or hours utilized (e.g., compressor assembly) to capture individual workers’ task efficiencies against pre-determined standards. The following internal memo on rewards issued to process leaders by the operations manager gives examples of the task standards.

“The lost time injuries (LTIs) (with a weight of 30%) must not exceed 12 (per annum July to June); cost of quality with a weight of 20% must not exceed \$x (July to June) (amount concealed to protect privacy); productivity (with a weight of 50%) must be at least 74% in terms of standard to actual hours (July to June. Signed...”

[Incentive Memo. Extract from Paragraph 4: Performance targets]

The targets for the measures under safety, quality and productivity are planned at the beginning of the year. The safety target is for the entire plant to sustain no more than a specified number of LTIs (currently 12) in a year.

For CoQ, a plant-wide target is allocated to the individual processes based on the proportion of value-added at each stage. The productivity (efficiency measures) target is based on individual performance in terms of units produced or time taken. The target measures of safety, quality and productivity are then assigned relative weights.

To motivate workers, the firm-specified division offers a matching reward scheme, which compensates the actual performance on safety, quality and productivity relative to the targets. The actual scores get altered if the targets are not reached. For instance, if the weight for safety is 30 percent, the division loses a safety score of 3 percent for every single additional actual LTIs beyond the limit.

In summary, the evidence from the firm-specified division regarding the measures used for evaluation is consistent with the measures used for providing incentives. Given this trend, there is reason to believe that the mismatching measures chosen for the customer-specified division is a deliberate design and that Skope must have had some defensible reasons for such a design choice.

Theoretical Analysis of the Findings

Mismatching Measures for Performance and Reward

At the operational level, where workers act as agents for the principal managers, the interests of workers are likely to be more closely aligned with the managers’ expectations if the measures used for evaluation of workers’ performance are consistent with the measures identified for rewards (Wruck and Jensen, 1994).

In Skope, the operations manager argues that offering incentives for customer-specified division on a single measure *NUMPRO* is a

cost-efficient surrogate since it is a single, periodic measure that captures the effects of two separate evaluation measures *ADSPEC* and *DETIME* of each job. The cost efficiency argument is based on the manager's belief that *NUMPRO* is likely to increase with improvements in *ADSPEC* and *DETIME* for each job. We have two main concerns here: First, no direct physical evidence was available in support of this belief statement. Second, in theory, the belief statement may not always hold. For instance, a team may obtain a new project but still not care to achieve the two job-specific measures in carrying out the project. If the project is from a one-off customer, then the chances of getting another order from a different customer may not be affected, at least in the short run!

Despite our concerns, our interviews with several senior managers reveal full support for the choice of measures used in the customer-specified division. We therefore proceed to identify the organisational factors that individually and collectively provide evidence-based rationale to the apparent mismatch among the three stated measures and the role of subjective indices in the customer-specified division. To minimise the chances of omitting key explanatory variables, we follow the procedures beginning from customer order processing up until project completion.

The Information-Hiding Problem and Solution

Recall that when a new customer order is received, the plant general manager joins with the operations manager and the process leader to determine the feasibility of making that order. A joint decision by the principal and the agent is efficient when different individuals hold different pieces of specialised knowledge (Jensen and Meckling, 1992; Milne, 2007; Du Plessis, 2007). According to the plant general manager:

“Deciding if a new custom order is manufacturable (initiation and planning of design) is very much a combined decision. While we focus on whether the new order matches Skope's strategic priorities, the process leader and his team examine if the order or the project is doable.”

If the project is accepted, detailed planning is carried out by the process leader and his team

and presented for approval prior to execution. The operations manager admits:

“To be honest, I usually only check (due to specialised knowledge) whether the plan sounds logical. I throw in a question or two (such as) ‘have you considered using flexible manufacturing systems to do this’ or ‘could the welding bay help (in achieving customer specifications)’. Generally he (the process leader) has a solution too. Once we agree on the design, then executing the tasks is done very much by the process leader and his team.”

As the work gets executed, the manager uses *ADSPEC* and *DETIME* to assess the team's performance. Though Skope initially used the same measures even for rewards, the feedback provided by Skope's prestigious customer, Coca-Cola, in the customer satisfaction register drastically changed Skope's strategy. The feedback revealed that though *ADSPEC* and *DETIME* were achieved for their order, Skope could have exercised greater influence over its employees to exploit further opportunities available to them (both in skills and technology) to improve the option features and innovativeness of the refrigerator models that Coca-Cola had initially designed. The plant general manager says:

“Coca-Cola is a truly important customer that we cannot afford to lose... If they are not satisfied, then we have to re-think on what to evaluate (in terms of performance) and in particular how to motivate the workers to share their further-innovation ideas to improve the product beyond what is initially agreed with the customers.”

The feedback from Coca-Cola and the general manager's statement both indicate the potential for workers' opportunistic behaviour in that they may merely carry out what is agreed initially in the *ADSPEC* and *DETIME* and not reveal their ideas for any further-innovation. This is because, apart from not gaining any additional value out of such disclosures, they may even lose their reward if the initially agreed *ADSPEC* and *DETIME* are not achieved.

Though Skope managers generally enjoy healthy relations with workers, the human relations (HR) policy statement states that Skope does not want to create control systems

that even remotely encourage a worker to indulge in opportunism. According to the operations manager:

“At the moment, he (process leader) meets me daily, I get him to give me an update of what his team is working on, and to specify how the team is getting on... and a lot of it is based on trust in them... I (still) would not want a performance measurement system that can encourage, even if it is remote, opportunistic behaviour in my workers.”

In response to the need for motivating the workers to reveal further-innovation potential, the plant general manager, in consultation with the operations manager, makes a decision to remove *ADSPEC* and *DETIME* as measures for incentive compensation. Consistent with economic theory (Brickley et al. 2009), removing incentives for concealing innovation ideas does not ensure automatic revelation of the ideas in our field study. We find evidence in Skope’s organisational policies and practices that create implicit incentives for not only carrying out and sharing further research ideas. The operations manager insists:

“We only put people [in the customer-specified division] who have the initiative: think on their feet, share new information and undertake challenging tasks. This is very different to the rest of the factory [the firm-specified division] where the workers are expected to follow prescribed standards”.

Further documentary evidence is as follows.

“The process leader is responsible for Refrigeration Customs’ construction, assembly and testing of prototypes (models) for custom orders and sales. The process leader will also assist in the design of prototypes. These responsibilities must be carried out in a positive and professional manner with willingness to undertake ‘challenging tasks’ and commitment to ‘continuous improvement’ and ‘quality processes’ at all times.”

*[Position Description: Objectives
Title: Process Leader – Refrigeration Customs
Reports to: Operations Manager – Refrigeration]*

With the above evidence sources, we build the initial blocks of the theory as follows. Together with the removal of the two job-

specific measures for incentives, a recruitment policy that focuses on commitment and aptitude for challenges helps create the desired incentive for workers to engage in further-innovation.

The “Go-Slow” Problem and Solution

Agency theory claims that the downside in creating incentives for a specific innovation activity is that the activity may be pursued even to the extent of detriment to firm’s long-term interests unless the firm implements efficient mechanisms for innovation control (Klein and Sorra, 1996). The basic argument is that the creation of incentives for harnessing agents’ expertise combines the need for delegation of rights with agents’ ability to generate informational rents, which in turn, gives rise to the agents’ scope for opportunism indulgence (Jensen and Meckling, 1992; Du Plessis, 2007). In our context, examples of agents’ opportunism include deliberate delays or ‘go-slow’ attitudes in building a new prototype. According to the operations manager:

“...if we motivate the workers (in customer-specified division) to go ahead and innovate further, then they get focused on it consciously or subconsciously. Then they might look at a job and (decide to) take the easy way and work at their own pace (an example of opportunism). We do not have all the time in the world... (Otherwise), we will end up facing a whole lot of totally dissatisfied customers.”

Given the need to balance between meeting customer requirements and also suggesting further-innovation in an environment that offers scope for opportunistic delays, how to evaluate the customer-specified division workers’ performance is a concern that many Skope managers commonly share. The operations manager states:

“I have been discussing (with the plant general manager) on how to evaluate their (Skope Custom workers’) performance. It is difficult... You can’t really say you have got to do 20 (refrigerators) next month, because sometimes they tell you that even a single order can take two weeks... They (customer-specified workers) have got the experience and knowledge that I will never have...”

The concern for reducing delays and the strategy for offering innovative products in the customer-specified division is shared by the managing director as follows.

“Though ‘quality, innovation and customer satisfaction’ are our key strengths, we do face competitive pressures from local manufacturers who deliver refrigerators cheaper and faster. We, therefore, have decided to reduce our lead time even while continuously developing innovative products. Our competitive strategy is to combine our key strengths with ‘shorter’ lead times”.

Further evidence from a policy statement is as follows.

“(In customer-specified division,) Skope will produce innovative cost-effective design that satisfies customers’ design brief, ‘on time’.”

[Quality Standard -Design Policy Statement: PL002.3]

Given the pressures to reduce lead time in innovating for customised products, we argue that the operations manager in and the plant general manager are forced to adopt the period-based measure, *NUMPRO*, whose objective is to promote speedy innovation. The indirect expectation is that the measure reduces incentives for opportunistic delays. For the customer-specified division, the effect of all these changes in the choice of measures is the apparent mismatch between the evaluation measures (*ADSPEC* and *DETIME*) and the incentive measure (*NUMPRO*).

Our study suggests that though Skope managers are conscious of the effects of such mismatch, they are reluctant to dispense with the two evaluation measures *ADSPEC* and *DETIME* because these represent job-specific measures that can yield customer satisfaction in case the workers identify that no further-innovation is possible for any particular job without incurring substantial costs. This difficulty is expressed by the operations manager thus:

“It is difficult... (For customer-specified division), to come up with a formula to measure job performance, and simultaneously motivate innovation and penalise delays, you would need a rocket scientist.”

The Economic Role of Subjective Measures

Due to the deliberate inconsistent design at Skope, a further analysis reveals evidence for the judicious use of subjective measures that provides a practical solution to the mismatch problem in Skope. At the first level, the opportunistic scope for the hiding of information can be reduced with the removal of incentives for *ADSPEC* and *DETIME*. However, what motivates the workers to disclose and engage in further-innovation, which can be critical to increase customer satisfaction? This is where Skope’s careful selection and retention policy applies. It ensures that workers who are intrinsically committed and willing to accept challenges are allocated to the customer-specified division, even though there is no formal periodic evaluation or reward that is linked to the subjective measure of commitment and aptitude for challenges.

At the second level, the tendency to protract innovation can be controlled by introducing a new measure, *NUMPRO* upon which incentives are based. However, what could still motivate the workers to continue to achieve *ADSPEC* and *DETIME*, when these measures are not linked to rewards? This is where the Skope customer satisfaction register plays an important role. Herein, the customers can record any feedback, including criticisms, on any specific job. This register is accessible to all employees in the firm and further it is possible to identify the members who were involved in any specific job. Agency theory predicts that when a feedback mechanism is accessible to the principal and other agents, it can trigger a reputation threat for the specific agent on whom the feedback is directed (Fama, 1980; Storey and Barnett, 2000). To protect their reputation, we argue that the workers seek to continually monitor their *ADSPEC* and *DETIME* progress on each job until such time they identify avenues for further-innovation, which are agreeable to the customer.

One may inquire why the two subjective indices are not formally included as evaluation or incentive measures, particularly when they play a critical role in linking mismatching set of measures for evaluation and incentives. Evidence suggests that formalizing subjective performance measures is costly due to lack of

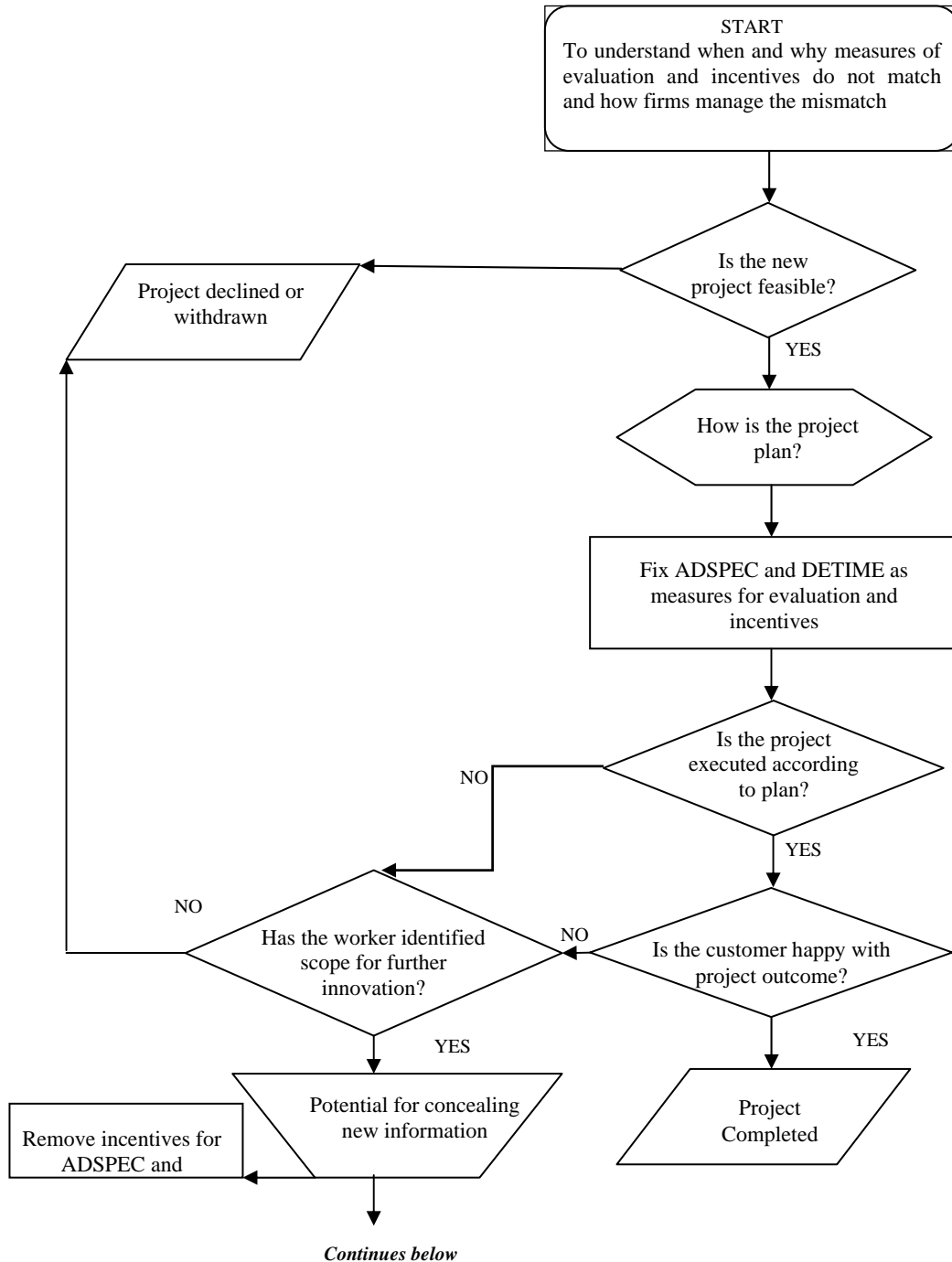
transparency and assessment difficulty. The operations manager concludes:

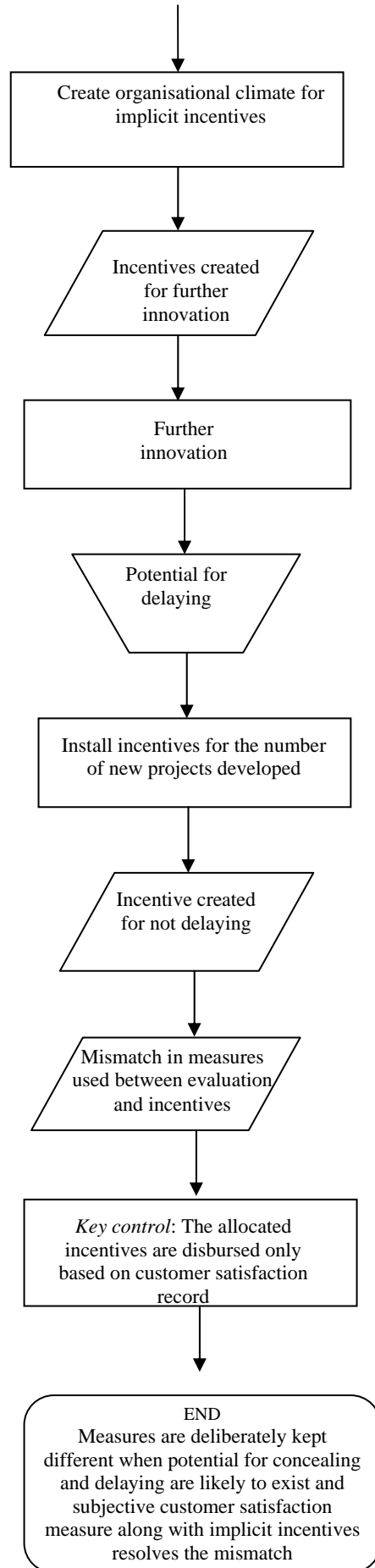
“The whole area of performance measurement and monitoring ... we are developing it, but we are trying to target objective standards that can be easily assessed rather than mere subjective (measures)... (However,) I have come to realise that subjective side of measures suits well here (in customer-

specified division). So where needed, we may use them, but only to the extent needed.”

Further, since the register’s presence itself offers a credible threat against violating the evaluation measures, the non-inclusion of customer satisfaction as a formal measure is not critical. The following Figure 1 summarizes the whole theoretical logic mentioned in this section.

Figure 1: Sources of Opportunism





Conclusions and Limitations

In summary, evidence suggests that the need to manage two conflicting goals namely, meeting customer requirements and at the same time motivating workers to engage in further innovation generates scope for potential sources of opportunism namely, hiding information on further-innovation avenues and protracting innovation (go-slow). To control the problems, Skope uses mismatching measures for performance evaluation and reward. While the potential to hide information is resolved by (1) removing *ADSPEC* and *DETIME* as measures for incentives, motivation for further-innovation is achieved by (2) selecting workers with commitment and challenge aptitude. The potential to protract innovation is resolved by introducing a new objective measure namely *NUMPRO*. The resulting mismatch between the evaluation and incentive measures is bridged by the use of a subjective measure namely, customer satisfaction.

However, the theoretical development must be interpreted in the light of some potential limitations. Our field study is based on one firm, Skope Industries. Though we adopt Yin's (1994) systematic approaches to scientific field study inquiry, our study lacks the advantage of having two or more firms, which can enhance the replicative power of our explanations. However, based on what Yin (1994) suggests as a *theoretical replication*, our approach to obtain contrasting evidence from the other division within the same firm having a dissimilar customisation strategy offers triangulation that builds credibility to our findings. Further, almost all interview data, is corroborated by archival records and direct observations.

Finally, several future directions arise in this line of research. Future studies can develop hypotheses on the two specific sources of opportunism and empirically test the same with large samples. Furthermore, need exists to understand the theoretical determinants of measurement mismatch (Ittner and Larcker, 2002), which will help advance our knowledge as to when and under what circumstances mismatch may be a preferred option. Another area where our understanding is still primitive is the relation between consistency and subjective measures. What is their role in

achieving goal congruence? Would the decision to formalize subjective measures moderate the achievement of goal congruence? In any case, we believe that the area of consistency in the choice of measures promises to offer several avenues for future research.

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