

COORDINATION FAILURE IN GOVERNMENT OFFICES:

A CASE OF UGANDA

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## **ABSTRACT**

Coordination games studies have established that coordination failure is a common occurrence that causes corporations to become trapped in unsatisfactory situations. No such study has been undertaken in government offices yet they are also stuck with inefficient practices and unsatisfactory performance. Poor time keeping, absenteeism and resultant long queues of citizens demanding for public services are still observed in many developing countries. One wonders whether the inefficient practices in government offices can be attributed to coordination failure. This study thus examines coordination failure and its correlates in government offices. The study uses data I collect from 385 government officials in 20 ministries of the government of Uganda. Findings suggest that government offices are trapped in an equilibrium situation as in a coordination game, with coordination failure being commonly observed. The outcome of a government official's choice of action is likely to depend on the choices made by the people they are interacting with as in a coordination game. A government officer is likely to keep time if he expects others to keep time; may be willing to put maximum effort to work if he or she expects others to put maximum effort and is likely to find it better to shirk if colleagues shirk. This tendency is likely to result in the observance of inefficient practices in government offices that can be described as coordination failure. Lower outcomes are commonly observed yet superior outcomes can be achieved with coordination. More so, the majority of government officials report not to forego their private cash business transactions to attend to office work during office time. Strengthening communication, leadership effectiveness, and incentives coupled to making the set targets known to all officers is likely to significantly improve the coordination level which may reduce coordination failure in government offices. This study thus provides additional insights on the role of coordination in government offices in a setting of a developing country.

## SUMMARY

Long queues of citizens demanding for public services are still observed in many developing countries. Government offices still face a number of inefficient practices including poor time keeping, absenteeism, inability to sequence work, non - responsiveness, poor filing, political interference and others which affect their day to day operations.

Experimental games studies have established that coordination failure is a common occurrence that causes firms and corporations to become trapped in unsatisfactory conditions. However such studies have neither been followed up with field studies nor been done in government offices yet they are also facing inefficiencies and unsatisfactory situations. This study therefore envisages that government offices may be experiencing coordination failure.

The study thus examines coordination failure and its correlates in government offices. The study postulates that there is a positive correlation between the outcome of a government official's decisions and the choices made by the people they are interacting with as in a coordination game. Further, the inefficient practices observed in government offices can be described as coordination failure and that coordination failure in government offices is closely associated with communication, leadership and incentives.

Providing suggestive evidence to the presence of coordination failure in government offices draws the attention of policy makers towards internal deficiencies that are within their control and also contributes to the coordination games and public administration literature because it is new to apply findings from coordination games to a field study and to micro - micro settings like government offices.

The study starts with a preliminary study to explore problems in government offices. It then reviews existing literature on coordination games studies and coordination failure and how they relate to communication, leadership and incentives in a government context in chapter 2. Peer-reviewed texts, articles and journals as well as government publications are used in this review. Key variables used in the study and the hypotheses examined are drawn from the review of literature.

Two questionnaires are developed and administered to 88 managers and 297 officers respectively drawn from 20 ministries of the government of Uganda. Departments from which respondents are selected are proportionately selected from the ministries. The head of department and three officers are targeted to be interviewed. Where a department has more than three officers, the three required to be interviewed are randomly selected as described in chapter 3.

Chapter 4 explores inefficient practices, the coordination game and coordination failure situation in government offices. The coordination game situation in government offices is illustrated using the level of time keeping for meetings by an official given the time keeping level of his colleagues under conditions of certainty and uncertainty. The coordination failure situation is explored by observing the rate of participation in report writing with and without coordination. Findings from chapter 4 suggest that mature, educated and experienced people can be trapped in inefficient practices. The outcome of a government official's choice of action depends on the choices made by the people they are interacting with as in a coordination game. A government officer is willing to keep time if he expects others to keep time; is willing to put maximum effort to work if he or she expects others to put maximum effort and finds it

better to shirk if colleagues shirk and so on. Findings further offer suggestive evidence that the inefficient practices in government offices can be described as coordination failure. Though inferior outcomes are more often observed, results reveal that superior outcomes can be observed with coordination.

Chapter five presents an analysis of the relationship between communication structures, leadership abilities, the incentive structures and coordination failure in government offices. The relationship between communication, leadership, incentives and coordination failure is established using fixed effect regressions, the linear probability model and ordered probit. Findings from the study offer suggestive evidence that communication, leadership abilities and the incentive structures in government offices are closely associated with the failure to coordinate government officials towards the attainment of desired outcomes. Knowledge of the set targets is also established to be closely associated with coordination failure in government offices.

Conclusions and policy implications are presented in chapter six. Since government offices are in a coordination game situation with coordination failure being common as in assembly lines, inefficiencies in government offices can be reduced without necessarily adding resources but rather with changing the mindsets and beliefs of the staff through eliminating factors associated with coordination failure. Giving clear instructions, ascertaining that the knowledge of targets are known to all involved, ascertaining sharing of information and giving feedback to officers, improving a manager's communication ability and his ability to lead by example coupled to rewarding good performance and sanctioning poor performance are internal factors that can eliminate inefficiencies yet they are within the

control of a manager. Eliminating inefficiencies may in turn lead to improved performance in government offices.

The study recommends continuous training and mindset change geared towards strengthening communication, leadership effectiveness and incentive structures. Kaizen is a management tool that has been established to change mindsets of workers towards productivity improvement. Leadership also ought to ascertain that officers know what they are expected of and job descriptions made as clearer as possible.

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## **CHAPTER 1**

### **Introduction**

Long queues of citizens waiting for public services are commonly seen in many offices in most developing countries. Jackets are more often seen hanging in government offices to symbolize the presence of an officer who may in the actual sense not have reported for duty. This is coupled to a number of inefficiencies read in paper media and television broadcasts showing scandals in government offices. Bigirimana (2014) exposed inefficient practices and scandals in the public service of Uganda. Literature reveals that many governments are still faced with poor public service delivery invariably resulting from internal operational design and management imperfections (Osborne, Radnor & Nasi, 2012). The public service of Uganda has for example been criticized for being inefficient, slow, corrupt, inaccessible and rigid, and as a result unresponsive to the needs of the people (MOPS, 2011; Olum, 2003). The referred to situation has forced the government of Uganda to undertake several reforms geared towards the improvement of the performance of public sector.

Basic to a theory of organizations is the premise that all organizations need coordination of tasks and resources for their success. Coordination involves the proper alignment of key tasks and resources needed for achieving set goals. For example what tasks are needed, who will perform them, and how will they perform them in order to achieve the set goals? Coordination games literature however suggests that coordinating actions towards the desired goals remains a challenge to many organizations, which results in the attainment of undesired lower outcomes hence making coordination failure a common practice (Camerer

& Weber, 2013). Coordination failure in the study is defined as a situation where lower outcomes (the less desired outcomes) are commonly attained instead of the desired set outcomes; where inefficient practices are more common than efficient practices that could be beneficial to all workers if ever attained. Could the inefficient practices in government offices thus be described as coordination failure?

This study thus examines coordination failure and its correlates in government offices. The study hypothesizes that government offices are in a coordination game with multiple outcomes where the outcome chosen by an official depends not just on how they choose among several options, but also on the choices made by the people they are interacting with. This study considers Pareto ranked outcomes including superior outcomes that entail the attainment of the desired goals with coordination and inferior outcomes that entail the attainment of less than the desired goals. It should be noted that what makes it a coordination game are the multiple outcomes from which players can choose, the complementarity amongst players, the payoffs and the fact that the best outcome can be attained by everyone involved if well coordinated.

In the hypothesized game situation in government offices, the choice of action of an officer depends not only on the payoff attached to the action but also on how he expects others to act. The complementarity makes each one choose to act in a way that benefits him because he is not certain of how his colleagues will act with regards to a particular outcome say punctuality for a meeting. They therefore end up not being punctual because they expect their fellow workers not to be punctual and find no incentive that motivates them to be

punctual. This tendency results in habitual late coming in government offices with consoling phrases like ‘there is no hurry in Africa’, ‘you keep your time, I keep my watch’, and ‘nobody subsidizes government’ and others. The study presumes that such tendencies make complementarity amongst staff high and where the payoff is not certain, then each staff chooses an outcome that benefits them which in most cases is an inferior outcome. This situation can then be described as a coordination game where inferior outcomes are more often observed hence coordination failure. For example lower outcomes like perpetual late coming instead of the desired superior outcomes like time keeping that can be attained with coordination are observed.

Coordination failure has immense literature built up mainly by game theorists (for example, Brandts, Cooper & Weber, 2014; Devetag & Ortmann, 2007; Van Huyck, Battalio & Beil, 1990). These game theorists have used laboratory experiments to establish that coordination failure is a common occurrence that affects productivity in assembly lines and firms. However to my knowledge, their findings have not been followed up with field studies in especially small workplace units like government offices. Since coordination failure has been confirmed to be a common occurrence that leads to continuous attainment of inferior outcomes, one may wonder whether it can also take place and cause serious damage to productivity in a small workplace like a government office where a small number of educated people daily work together.

This study explores the presence of coordination failure in government offices and continues to postulate that the inefficient practices observed in government offices, as well

as the resulting unsatisfactory performance, can be described as coordination failure. Further, the coordination failure situation in government offices is closely associated with the communication structures, leadership effectiveness and incentive structures within those offices. For example Hinds & Kiesler (1995) emphasize that strengthening horizontal structures and supporting old and new technology use by all employees encourages communication flows across organizational boundaries. In government offices however, the formal means of communication is written communication and most correspondences to the ministries are addressed to the Permanent Secretary. As a result, the flow of information or assignments trickle from the Permanent Secretary's office through the Directors and then to the Heads of Department who then assign it to responsible officers. Phrases like take necessary action (TNA), please handle (p/h), for your information (FYI) are commonly observed on documents assigned to officers. This makes one wonder whether such phrases are clear enough to lead to a common understanding necessary for handling the desired assignment, and whether the chain of command does not cause delays and redundancy so as to affect productivity. The study is to my knowledge the first attempt at applying findings from experimental games to a field study moreover to a small work place like a government office.

In a preliminary study spearheaded by my advisor, Professor Tetsushi Sonobe in September 2015 in government offices of Uganda and Tanzania, the Permanent Secretaries and other government leaders discussed with acknowledged the presence of inefficient practices including among others poor time management, absenteeism, inability to sequence work, non-responsiveness, poor filing, political interference and others which affect their day

to day operations. A Permanent Secretary during the discussions in Uganda termed the situation they face as ‘professional decay’ within the public service. ‘Civil servants are complacent and have no regard for working procedures and structures’. He mentioned that public service is stuck with none performing officials who cannot be reprimanded. The listed inefficient practices were verified in a field study that followed and 58% of the respondents rated poor time management as the most inefficient practice in government offices (Table 4.1).

From the preliminary study a research question was framed seeking to establish whether the situation in government offices can be described as coordination failure. A follow up field study was thus undertaken to establish answers to the research question.

Exploring the presence of coordination failure in government offices is of real importance because coordination failure has been established to be common and detrimental in many settings. It draws the attention of policy makers towards internal deficiencies that can be solved from within the office. This is a pointer to where focus for improved performance and elimination of inefficiencies should be directed without necessarily using additional resources. This study contributes to the coordination games and the public administration literature because it is new to apply findings from coordination games studies to a field study and more so to a public sector setting.

This research is motivated by the continuous drive for promoting excellence in public service provision which many governments are committed to, Uganda government inclusive. The government of Uganda has since gaining independence from the British in 1962



undergone several regime changes with each regime coming to power after a war or a coup which distorts the general government structures. So each regime starts with reforms geared towards rebuilding the nation and restructuring the public service. The current government came to power in 1986 and has since then undertaken several public administration systems reforms (PASR) with an intention of improving the efficiency and effectiveness of delivery of public services. But despite the several reforms, public service delivery is still insufficient.

The research is also driven by the absence of follow up field studies for coordination games yet they have proved that coordination failure is a common occurrence that affects productivity in firms and assembly lines, so it could be affecting government offices as well.

Further motivation arises from the gaps in economics literature that neglect the fact that interactions amongst a group of players can cause problems to the entire set up and are bound to arise whenever multiple agents exist. For example the principal agent relationship focuses on incentives and performance arising out of the agent acting on behalf of the principal who can only imperfectly monitor the behavior, especially shirking or poor time management of the agent (Milgrom & Roberts, 1992). Bureau pluralism focuses on interactions between the state and industry (Okazaki, 2000); the embedded autonomy focuses on interactions between the state and the private sector by Evans (1995) while the connected government focuses on linkage of government institutions (OECD, 2005).

While these interactions may be crucial, there are could be many agents within one stratum that may face problems that can trickle to the entire structure and cause overall inefficiencies. For example in the bureau pluralism interactions, bureaucrats in one unit of

the bureaucracy may have problems of non-responsiveness and fail to meet their obligations towards an activity which may affect the whole structure. A case can be failure by one department to respond to timely submission of inputs during a budgetary call. This implies that submissions of the whole ministry will be made excluding that department or with estimates thereof, yet they would continue to work and expect to be facilitated from the available funds. This shortage of funds would not only affect the department and the ministry concerned, but also the industry that is supposed to be facilitated. Officers in one department can fail to file their documents properly and it causes serious delays in retrieving documents that may be required for follow up actions. This does not only affect the department concerned but the entire structure that may need to use the file or that may have a stake in the follow up activities. Micro-micro situations like the one of assembly line workers are considered in the coordination games literature, but government offices have not been seen from the coordination failure point of view.

To explore coordination failure in government offices, the study starts by reviewing literature from previous studies on coordination games and coordination failure in order to identify variables for use in the study. Three hypotheses are drawn from the review of literature. They include, ‘the outcome of a government official’s decisions and the choices made by the people they are interacting with are positively correlated as in a coordination game’; ‘the inefficient practices observed in government offices are positively correlated with coordination failure’ and that ‘coordination failure in government offices is closely associated with communication, leadership and incentives’.

The study looks into the routine operations of government offices and identifies activities that need coordination for their success. The identified activities are used as objects of analysis for coordination failure within those offices. Such activities include meetings, report writing and effort level put to actual work. Proxies of performance including the quality of work, productivity improvement and fair and equitable treatment of staff are also explored as objects of analysis of coordination failure. Two questionnaires are formulated with questions that fit in the three explored hypotheses. The study undertakes a survey that collects data from 20 ministries of the government of Uganda. 100 departments are randomly selected from the 20 ministries and one manager and three officers are targeted to be interviewed from each of the selected department. 385 respondents including 297 officers and 88 managers respectively are successfully interviewed using a separate questionnaire for each category.

The coordination game situation in government offices is illustrated using the level of time keeping for meetings by an official given the time keeping level of his colleagues under conditions of certainty and uncertainty. The level of time keeping under certainty is when the official is aware that his colleagues would keep time or be late for a meeting and time keeping under uncertainty is when the official is not sure of whether the colleagues would keep time or not. The coordination failure situation is explored by observing the rate of participation in report writing with and without coordination. The relationship between communication, leadership, incentives and coordination failure is established using fixed effect regressions, the linear probability model, the ordered probit and xtoprobit estimations. The objects of analysis of coordination failure are the outcome variables while

communication, leadership, incentives and the knowledge of targets form the explanatory variables. Individual and office characteristics are used as controls in the analysis.

Findings suggest that the outcome of a government official's choice of action is likely to depend on the choices made by the people they are interacting with as in a coordination game. A government officer is likely to keep time if he expects others to keep time; may be willing to put maximum effort to work if he or she expects others to put maximum effort and is likely to find it better to shirk if colleagues shirk and so on. Such a tendency is a demonstration of coordination games with multiple equilibria that makes the need for coordination high in government offices if superior outcomes are to be achieved. More so the level of complementarity (consideration of others when making decisions concerning work) is relatively high reported by 65% of the respondents. 84% of the respondents report to keep time if they are certain that their manager would keep time as compared to 45% who would keep time if they knew their manager would be late for a departmental meeting. Only 17% of the respondents report to keep time if they are uncertain that colleagues would keep time.

In addition to that, findings offer suggestive evidence that the inefficient practices in government offices can be described as coordination failure. Though inferior outcomes are more often observed, results reveal that superior outcomes can be observed with coordination. Applying pre-play communication as a coordination mechanism reveals that the level of participation in report writing increases to 82% from the actual participation level of 51% when reminders are circulated and it declines to 40% without reminders. However with

feedback on the produced report the level of participation in subsequent report writing is perceived to increase to 70% which is also above the actual participation level of 51%.

Findings further suggest that coordination failure in government offices is closely associated with communication, leadership and incentives. Findings suggest communication and incentives are positively and significantly associated with all the outcome variables including time keeping for meetings, participation in report writing, the effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers. Because of the high correlation between the management tools, leadership is significant with only productivity improvement. While communication, incentives and leadership matter, results suggest that communication matters more.

In addition to management tools, results suggest that knowledge of the set targets is positively and significantly associated with all the outcome variables except the effort level put to actual work in a day. Results also suggest that the level of utilization of staff has a positive and significant relationship with productivity improvement and fair and equitable treatment of officers.

A comparison of which explanatory variables work best for each category of staff suggests that communication is positively and significantly associated with time keeping for meetings, participation level in report writing and the effort level put to actual work by the officers but has no statistical significance when it comes to managers. Incentives have a positive and significant relationship for both categories.

Decomposing the communication, leadership and incentive variables offers suggestive evidence that in order for communication to improve coordination, focus should be laid to ascertaining responsiveness of officers, feedback and information sharing. For leadership, the credibility of the manager, his ability to communicate and to conform to the ethical code of conduct are more important and therefore ought to be emphasized. For incentives, attention should be laid to rewarding high performance, sanctioning poor performers and promoting job related talent. All the explored variables are factors that can be handled from within the office without necessarily using additional resources.

The rest of the dissertation is structured as follows. Chapter 2 reviews literature on coordination games, coordination failure, communication, leadership and incentives. The chapter also presents hypotheses drawn from literature. Chapter 3 explains the study area and data collection procedures. Chapter 4 explores inefficient practices, the coordination game and coordination failure situation in government offices. Chapter 5 explores the association between coordination failure and communication, leadership and the incentive structures in government offices while chapter 6 draws conclusions and recommendations from the findings established in chapter 4 and 5.

## **CHAPTER 2**

### **Literature Review**

#### **2.1. Introduction**

Experimental coordination games studies have established that coordination failure is a common phenomenon in firms and assembly lines (for example, Brandts & Cooper, 2006, 2007; Brandts et al., 2014; Cooper et al., 1990, 1992, 1993; Devetag & Ortmann, 2007; Van Huyck, et al. 1990, 1992; Van Huyck, Battalio & Rankin, 2007). This chapter presents a review of coordination games and coordination failure from previous studies and how they relate to communication, leadership effectiveness and incentive structures. The review traces the intellectual progression of coordination games and their multiple equilibria nature and highlights major trends of previous writers. It thus provides a solid background and foundation that supports this study.

Peer-reviewed texts, articles and journals as well as government publications are used in this review. Because of the difficulty in measuring the constructs under study, indicators associated with each of the construct included in the study are identified as variables from literature and measured in government offices through the development and administration of an appropriate question. Since this review of literature offers a solid background and foundation that supports the study, it calls for the use of only peer reviewed journals. Government publications are considered because the study is undertaken in government offices.

This chapter is structured as follows; section 2 synthesizes coordination games as presented by different authors, section 3 reviews coordination failure, while section 4 examines the relationship between coordination failure and communication, leadership and incentives. Section 5 concludes by presenting the hypotheses drawn from literature, emphasizes the novelty of this study and its contribution to coordination games and public services literature.

## **2.2. Coordination Games**

Coordination games are characterized with multiple pure strategy Nash equilibria in which players choose the same or corresponding strategies, though each party can realize mutual gains by choosing mutually consistent decisions (Govindan & Wilson, 2005). They add that a player is considered to have selected an optimal choice if he maximizes his expected utility of outcomes conditional on knowing or correctly anticipating what others choose. Brandts & Cooper (2006) point out that coordination games are commonly characterized by multiple equilibria and the need for players to coordinate on the best Nash equilibria. With multiple equilibria, the rational player is not certain of which equilibrium strategy fellow players will choose and, when the choice of equilibria is not defined, the prevailing strategic uncertainty will influence the rational player's behavior (Van Huyck et al., 2007). Strategic uncertainty are common even in situations where goals, strategies, rules and equilibrium conventions are completely spelt out and known to all players (Van Huyck et al., 1990).

To illustrate the equilibrium concept, scholars have used several games including Prisoner's dilemma, stop light games, the battle of sexes game, stag hunt game, minimum



effort game, rush-hour traffic games and others to show how players tend to take action basing on how they expect others to act and how this leads to different equilibria more often the inferior one. Coordination games studies have used laboratory experiments to establish that firms and assembly lines are in a coordination games situation with multiple equilibrium that calls for coordination of players towards the selection of the best outcome (for example, Brandts & Cooper, 2006, 2007; Brandts et al., 2014; Cooper et al., 1990, 1992, 1993; Devetag & Ortmann, 2007; Van Huyck, et al., 1990, 1992, 2007).

Kreps (1990) illustrates an application of a prisoner's dilemma in firms using an example of two firms selling a similar product. Each can advertise, offer items on sale, and so on, which may advance its own profit and hurt the profits of its rival, without considering the actions that its rivals may take. However increased advertising by both firms decreases total net profits as compared to cooperation or signing agreements to restrict advertising. Brandts & Cooper (2006) also present a minimum effort game using an example of a firm that produces via an assembly line on which the slowest worker controls the speed of the entire line.

Like assembly lines, government offices also have two or more people working together to achieve a common goal and it is very likely that they all desire to achieve that common goal. But because each is likely to act according to how they expect their colleagues to act, they end up achieving different outcomes that each considers optimal or the best action to avoid punishment. The study therefore envisages that as in assembly lines, a government officer's action towards an activity depends on how he or she expects fellow workers to act

towards the same activity. For example a government officer is likely to put maximum effort required to achieve the best outcome to work if he or she expects fellow officers to put maximum effort required to achieve the best outcome and vice versa. This complementarity creates a tendency where each officer ends up doing what they consider optimal which is the best outcome to avoid punishment and more often less than the desirable, hence the likelihood of coordination failure and the need to be coordinated on the desired goal. The described scenario is a coordination game situation which this study seeks to explore in government offices. Figure 2.1 is an example of a simple coordination game drawn from Cooper et al., (1992) but modified with punctuality and non-punctuality as strategies to suit the government context.

From figure 2.1, two players (column and row) have two strategies (1 and 2) for non-punctuality and punctuality respectively, from which to choose. The payoff for each player is determined by his own choice and what the other player chooses. Players can select the best outcome if they coordinate but in most cases they can also prefer to select a lower outcome if they believe others will do so. (800,800) and (1,000, 1000) are the Nash equilibria and (800, 800) clearly Pareto dominates (1,000, 1,000). To the extent that players are not sure of the likely play of an opponent, strategy 1 (non-punctuality) is more safe for both players. Each player gets 800 independent of the opponent's play which makes it safe and hence risk dominant. Given strategic uncertainty strategy 2 is risky because it has 0 attached to it if one of the players chooses strategy 1 and the opponent chooses strategy 2. The riskiness of strategy 2 makes strategy 1 focal, which leads to the observance of the Pareto inferior Nash equilibrium hence coordination failure. The Pareto superior Nash equilibrium of (1000,

1000), that is, punctuality is the best outcome for both players if ever reached, and can be reached with coordination. In other words, if a worker is not sure of the punctuality of fellow workers for a meeting, he will not have any incentive for being punctual. If he goes late when the meeting started on time he will miss crucial information (2, 1), (1, 2). However if the meeting starts late because everybody else went late, then they will lose time and probably depart late (1, 1) but he will not have lost anything as him and if they coordinated and all kept time, all would be informed and would depart early for other important activities (2, 2).

An earlier study on coordination problems based on field observations established that interdependencies / complementarities at the work unit make it even more difficult for players to choose the best choice (Van De Ven, Delbecq, & Koenig, 1976). From both experimental games and field observations literature, strategic uncertainties, level of interactions and complementarities make multiplicity in equilibria inevitable. Van de Ven et al. (1976) add that knowledge of set targets increases the desire to achieve them thereby reducing uncertainty and the willingness to cooperate towards achieving the common goal. Experimental games literature does not include knowledge of targets but this study incorporates it and explores it in government offices.

Figure 2.2 presents a similar situation in a government context using the effort levels that officers put to work. Two officers have a choice of selecting the effort levels they put to work which include the minimum effort required to avoid punishment and the effort level needed to achieve team goals. The payoffs for the choice of strategy are presented in brackets in each cell. The figures for the payoffs are arbitrarily chosen but the payoff for each player

is determined by his own choice and what the other player chooses. Because of uncertainty each officer chooses the minimum effort required to avoid punishment for which each gets a payoff of 500 without necessarily having to depend on the other, hence making it a safe strategy / risk dominant strategy. If any player chooses the effort level needed to achieve team goals and the other chooses the minimum effort, then one with the maximum effort gets -100, which makes the effort level needed to achieve team goals risky. This riskiness makes the minimum effort strategy focal hence the observance of coordination failure. Cell A (500, 500) and cell D (1000, 1000) represent a coordination game situation with Pareto ranked Nash equilibria with cell A Pareto dominating cell D. Cell D represents the best outcome ever reached if both officers coordinate and put the required effort level needed to achieve the set departmental goals.

The two figures present a simple coordination game with Pareto ranked Nash equilibria in which (1000, 1000) is a Pareto superior equilibrium and (800,800) or (500,500) respectively represent the Pareto inferior Nash equilibrium. Because the officers' effort levels are complementary to each other, higher effort of all or most of the workers is needed to realize the better outcome. There are no individual incentive schemes that reward individual workers who choose higher effort. Because of uncertainty of the effort level fellow officers put to work, officers end up choosing an effort level that they consider optimal which in most cases is the minimum effort needed to avoid punishment hence coordination failure. I therefore hypothesize that the outcome of a government official's choice of action and the choices made by the people they are interacting with are positively correlated as in a coordination game.

### **2.3. Coordination Failure**

From the above section we note that the common feature under simple coordination games is the complementarity and the presence of Pareto Nash equilibria (different outcomes) which calls for players to coordinate on the best Nash equilibrium (best outcome). However because of the payoffs and uncertainty of the choice of action of the other player, players find no incentive for choosing superior outcomes and thus end up choosing lower outcomes (inferior Nash equilibrium), hence coordination failure. Coordination failure is thus defined as the persistent attainment of inferior outcomes when superior outcomes can be achieved with coordination. As earlier noted findings from several studies carried out using laboratory experiments establish that coordination failure is a common occurrence in assembly lines and firms.

Van Huyck et al. (1990) distinguish two premises for coordination failure; playing a Pareto-dominated equilibrium where each player chooses a strategy they consider optimal / self-rewarding which in most cases is an inferior one and not choosing the same effort level. They point out that coordination failure is as a result of the effects of strategic uncertainty in the game that bring about a multiple equilibria situation from which players have to coordinate in order to select the best response. If by any chance one of the players presumes that any of the other players may choose a lower effort level or a Pareto-dominated equilibrium play, then choosing a high effort may no longer be the best choice (Van Huyck et al., 1990).

Van Huyck et al. (1990, p.242) emphasize that to the extent that there is strategic uncertainty of the likely play of an opponent, a Pareto inferior Nash equilibrium is safe as portrayed in figure 2.1 and will hence be observed (Cooper et al., 1992). The tradeoff between the risky action (required for the efficient equilibrium) and the secure action (inferior equilibrium) makes it attractive for a player to select a secure but unattractive equilibrium, hence coordination failure (Devetag & Ortmann 2007, p.334).

Devetag & Ortmann (2007, p.334) further point out that structural, cognitive and behavioral determinants affect coordination failure in the laboratory. According to them, structural determinants include such characteristics as the attractiveness of the secure or maximin strategy (800, 800 in our example), and the riskiness of other action choices. The attractiveness or riskiness of other action choices is defined by the type and strength of the deviation costs (the reward or penalty incurred by a player who does not best respond to other players' choices), the order statistic like the minimum or median of all players' choices, the group size (number of people in the game), opportunities for shared experience, interaction and information feedback (Devetag & Ortmann, 2007: p.337). The listed factors are fully under the control of the experimenter.

Camerer & Weber (2013, p.239) note that from an organizational perspective, coordination problems arise when agents' behaviors are mismatched or when an organization is stuck in an inefficient set of practices that a small group of workers cannot change on their own. Related to coordination games, this inefficient set of practices can be equated to a Pareto dominated equilibrium or an inferior Pareto Nash equilibrium. This implies that an

organization's being stuck in inefficient set of practices is an indication of coordination failure.

Brandts & Cooper (2006, p.669) reiterate that coordination failure causes corporations and other organizations to become trapped in situations that are unsatisfactory for all involved, even though preferable outcomes are possible and would be stable if ever reached. As an example, they present a firm producing via an assembly line on which the slowest worker determines the speed of the entire line. Any worker who individually works harder wastes his effort if slow work persists elsewhere. Therefore workers end up exerting minimal effort, but could be better off if all tried harder and the line became more productive. Only if the hypothetical worker is reasonably certain that others will also be working harder should he be willing to increase his effort, otherwise he will not and this leads to coordination failure (Brandts & Cooper, 2006: p.669) .

In government context, the performance of government institutions may be unsatisfactory despite the fact that government workers may desire to achieve more satisfactory performance. If there are Managers or Officers who put in less effort to work or less time, fellow workers may see no reason for putting in more effort or time unless there is a payoff attached to it (an incentive). Thus, one is encouraged to describe the inefficient practices and unsatisfactory performance observed in government offices as coordination failure. This forms hypothesis two of the study and is part of the focus of chapter 4.

## **2.4. Factors Associated with Coordination Failure**

In the presence of multiple equilibria, attaining a payoff dominant equilibrium / superior Nash equilibrium would require coordination of the players' beliefs and expectations towards the efficient equilibrium (Kogan, Kwasnica & Weber, 2011, Hamman, Rick & Weber, 2007). They thus point out that of particular importance to research on firms or organizations is the question of how to resolve coordination failure and drive groups towards more efficient equilibria. This section seeks to offer suggestive answers to that question by exploring the relationship between communication, leadership effectiveness and incentive structures, and coordination failure in government offices. This forms hypothesis three of the study and part of the focus of chapter 5.

Communication, leadership effectiveness and incentive structures have been established to be key management tools that can be used to influence behavior that moves organizations from coordination failure situations to successful coordination. For example Brandts & Cooper (2007) examine the effect of the three variables through an experiment using a turnaround game where a manager had to drive employees towards the attainment of the efficient equilibrium by changing their beliefs about other employees' actions using incentives and communication. Results reveal the importance of both communication and incentives but emphasize that communication produces more efficient equilibria as it converges employees' beliefs towards increased effort and profitability.

This chapter reviews literature on how the three management tools offer a solution to coordination failure. Section 2.4.1 explores the relationship between communication and



coordination failure; section 2.4.2 reviews the relationship between leadership and coordination failure, and section 2.4.3 examines the association between incentives and coordination failure.

#### **2.4.1. Communication and Coordination failure**

Brandts et al. (2006 and 2007); Cooper et al. (1990, 1992, and 1993); Devetag & Ortmann (2007), Van Huyck et al. (1990 and 2007) for example conduct coordination game experiments and establish that communication matters and improves coordination of strategies. Allowing one player to send a message to another prior to the choice of actions almost completely resolved coordination problems observed in the experimental game without pre-play communication (Cooper et al., 1992: p.742; Camerer & Weber, 2013: p242-p243).

Cooper et al. (1992, p.750) present evidence on how communication resolves coordination failure by carrying out an experiment using a two stage coordination game between two players in simple and cooperative coordination games with no communication, one way communication and two way communication. The outcome of no communication is the play of the inferior outcome. Only 5% of the plays played the superior outcome implying that each player maximized his individual benefit without minding others. With one way communication, the best outcome is played 69% of the time implying that beliefs and meaning of the messages made opponents focus on a better strategy but there were still some uncertainties may be due to lack of trust or mere lack of responsiveness. With, two way communication, the best outcome is played 95% of the time implying that players' beliefs

and expectations are more focused towards the best response for each play and feedback makes the players more focused to the best outcome in the subsequent plays (Cooper et al., 1992). Adequate information and feedback raise strategic stability and substantially reduces coordination problems (Devetag & Ortmann, 2007).

To emphasize the importance of feedback, Locke & Latham (2002) carry out a meta-analysis that summarizes empirical research carried out for over 35 years that focuses on goal setting theory and the importance of feedback. They establish that in order to realize goals, a summary feedback that reveals progress in relation to people's goals is needed. If people fail to know how they are doing, it becomes difficult or impossible for them to adjust the direction of their effort or their performance strategies to match what the goal requires.

Communication has focal properties: it yields a common view point, unifies expectations and helps in revising beliefs (Dewan & Myatt, 2008). They note that success increases when members advocate similar policies and lessens when there is wide spread discordance. They add that the content of the message and its interpretation should lead to a common understanding of the message being communicated, and that clarity is more enhanced if it is communicated directly and simultaneously to followers. This points to the importance of meetings and information sharing.

Taking into account findings from previous studies, communication really matters. Communication can cause coordination failure if the message circulated is incomplete or not clear, if opportunities for direct or simultaneous interactions are rare, if feedback is insufficient and if players are not responsive. Otherwise it eliminates coordination failure if

the listed factors are positive. The identified constructs are also found in the Communication Satisfaction Questionnaire (CSQ) whose reliability was reported to be 0.94 and validity confirmed and reconfirmed through factor analysis (Downs & Hazen, 1977).

Based on the established importance of communication in solving difficulties in coordination, it is reasonable to assume that the failure to coordinate in government offices is associated with communication structures within the office. Thus, improving communication in government offices tends to increase the level of each of the outcome variables hence reducing coordination failure in those offices which is part of hypothesis three of this study.

#### **2.4.2. Leadership and coordination failure**

It is widely agreeable that good leadership is fundamental to the successful performance of organizations. Leadership provides the learning environment that enables individuals to transform or revise beliefs towards achieving goals (Levi, 2006 in Dewan & Myatt, 2008 : p.1); espouses values and broad strategic direction (Camerer & Weber, 2013) and ignites passion, pace, and drive, takes responsibility for leading delivery and change, and builds capability of staff (Andrews, Beynon & McDermott, 2016).

In the context of coordination, several studies of turnaround in experimental weak link environments reveal that leadership of various types can play a natural role in facilitating the transition to a better outcome (Brandts, et al., 2014 : p.1). They cite experimental studies involving leading by example by Cartwright et al. (2013) and communication from a leader requesting greater effort by group members (Brandts & Cooper, 2007). These studies

establish that leaders induce coordinated organizational change to a more efficient equilibrium and help an organization escape from a low productivity trap. Findings from those studies have not been followed with field studies in especially government offices.

In reference to the quality of leadership, Dewan and Myatt (2008, p.3) analyze a game in which party activists wished to advocate the best policy and at the same time unify behind a common party line. They establish that for better equilibrium, the relative influence of a leader and aggregate party performance increases with her sense of direction and clarity of communication.

In line with the importance of clarity of communication, Brandts et al. (2014); Brandts and Cooper (2007, p.1262) study the effectiveness of leaders in inducing coordinated organizational change to a more efficient equilibrium. They use a laboratory experiment focusing on the effectiveness of leaders with the ability to communicate with other group members. Results from the experiment reveal that allowing communication from a leader significantly increases coordination in the treated group. Similarly Camerer & Weber (2013, p. 251) point out that managers who ask employees for greater effort, who draw their attention to the bonus, and who describe a long-term plan for improving efficiency obtain the greatest improvements in efficiency. This implies that a leader's ability to communicate is very crucial in solving coordination problems.

Related to the above, Dong, Montero, & Possajennikov ( 2015) use the minimum effort / weak link game with cheap talk (one way non-binding pre-play communication) and first mover leader ( leads by example) as leadership mechanisms to study the effect of

leadership mechanism on coordination. They establish that both leadership mechanisms affect the players' beliefs and possibly change their behavior allowing for coordination to a better equilibrium. In both cases the leader's suggestion or choice acts as a focal point. In addition to the focal point effect, in the leading-by-example case, having the leader commit to an effort reduces the strategic uncertainty faced by followers. Both mechanisms improve coordination though leading by example is more effective than cheap talk (Dong et al., 2015: 26).

Contrary to leaderships' vital role in solving coordination problems, Brandts & Cooper (2007) establish that not all leaders are effective in coordinating players towards the most efficient equilibrium. They attribute the discrepancy to the way in which a leader is chosen. According to them, leaders selected through procedures that afford their position with greater legitimacy are more effective at inducing organizational change. This implies that for a leader to be effective, his followers must regard him as credible.

In line with games literature, literature on productivity in firms also establish that management practices explain variations in productivity across firms and countries, (for example, Bloom & Van Reenen, 2010). Managerial capital has also increasingly been recognized by economists as a factor associated closely with enterprise productivity, growth, and longevity (e.g., Bloom and Van Reenen, 2007, 2010; Bruhn, Karlan & Schoar, 2010; Syverson, 2011 in Higuchi, Nam & Sonobe, 2015, p. 189). Consistently an increasing number of randomized controlled trials show that management training can improve the productivity of firms in developing countries (for example, Bloom et al., 2013; Higuchi et al., 2015; Bruhn,

et al., 2010). These results suggest that management (leadership in our case) matters and is very crucial in improving productivity in firms.

Based on the importance of leadership in coordinating players towards superior outcomes in experimental games and the importance of management (leadership) in explaining productivity across firms coupled to the increased importance of management training in improving productivity in firms, it is reasonable to believe that leadership in government offices is closely linked to coordination failure in those offices.

Constructs drawn for measuring leadership effectiveness include the leader's ability to communicate, to offer strategic direction (ask and mentor employees towards greater effort), to be credible, to conform to the ethical code of conduct and to steer direction.

The selected variables form part of the Empowering Leadership Questionnaire (ELQ) that measures leadership behavior in empowered team environments. Constructs from this leadership tool have been tested for validity and reliability and widely used in public administration literature (Arnold, Arad, Rhoades & Drasgow, 2000).

### **2.4.3. Incentives and coordination failure**

Incentives in this study are defined as inducements that foster desired action. Camerer & Weber (2013, p.241) suggest that a natural candidate for improving coordination is incentives. They add that even a temporary incentive increase might coordinate players on better equilibria, and are subsequently self-reinforcing, even after the incentive has been removed. Brandts & Cooper (2006); Hamman, et al., (2007) also affirm that financial incentives can overcome persistent coordination failure.

This study postulates that coordination failure in government offices is closely associated with the incentive structures in government offices. The study hence hypothesizes that incentive structures in government offices are closely associated with coordination failure. Examples of such incentives include monetary, prestige, realization of self, desire to serve the public interest, social equity, commitment to a program, and patriotism of benevolence (love for one's country). Incentives must recognize and take advantage of the fact that people are motivated primarily by self-interest (Perry & Wise, 1990).

Bloom & Van Reenen (2011, p.1699) identify incentives to include remuneration systems for example individual or group incentives / contingent pay; the appraisal system, promotion and career advancement. They regard a worker to be receiving performance pay if any part of his compensation includes bonus, commission or piece rate, profit related pay or employee share related schemes.

Hamman, et al. (2007) use the minimum effort game to explore the effectiveness of different kinds of incentives in inducing coordination. They vary incentives along three dimensions including the magnitude of the incentive – whether incentives must be large / substantive in magnitude to encourage coordination or whether token / nominal incentives are sufficient; the valence – positive or negative incentives and whether incentives are applied to one or more outcomes – targeted or untargeted. They establish that all dimensions of incentives induce coordination to a better equilibrium though the magnitude of the incentive does not matter much; either large or token incentives tend to encourage coordination (Hamman, et al. 2007, p.287)

For the valence, considerable evidence suggests that losses have a greater psychological impact than comparable gains and as such negative incentives (punishments) imposed when groups fail to coordinate efficiently tend to be more effective than positive incentives, and targeted incentives are more effective than untargeted incentives in inducing coordination to the most efficient equilibria (Hamman et al. 2007, 288). They also establish that non-monetary incentives (recognition, informal expressions of disapproval) can also induce efficient coordination.

While the importance of incentives to inducing coordination to a better equilibrium has been widely acknowledged, some studies have established that incentives may at times have crowding out effects. Camerer & Weber (2013, p. 224) cite Gneezy & Rustichin (2000) who establish that competition for bonuses may at times be undermined by both the diversion of effort into sabotage and by the withdrawal of effort in anticipation of sabotage. They add that crowding out of intrinsic incentives can also occur when people exert effort out of moral obligation and pay / fine drives out moral obligation.

Distortions from incentive pay may arise if the incentive is based on the common practice of using supervisors' subjective measures of performance (Bloom & Van Reenen, 2011: p.1735). They add that subjective measures of performance encourage employees to engage in influence activities that alter supervisors' decisions in their favor, encourage favoritism on behalf of the supervisors for particular workers and the parties may hold different opinion about employees' performance, which may instead bring about negative effects.



In line with the importance of incentives to improved performance, the Uganda Public Service Standing Orders (2010) present an array of incentives both positive and negative ranging from salary, several types of leaves, several types of allowances and other concessions, and presents deviation costs / penalties for noncompliance ranging from warning letters, suspension, dismissal, salary withdrawal and others that are supposed to be offered to public servants.

The Ministry of Public Service (MOPs) (2011a) highlights monetary and non-monetary rewards including pay revisions, bonuses and recognition, posting on dash boards, added responsibility and assignments to bigger projects. MOPs (2011a) however points out that implementation of these incentives is still a challenge as salaries are still low and consolidated with receivers not knowing the different components entailed. Worse still, the process of implementing other incentives is still regarded as none transparent and subjective.

Despite the listed challenges in the Uganda public service incentives provision, other aspects such as allowances, several types of leaves, entitlements, trainings and others bridge the gap to some degree (MOPs, 2011a).

The above literature suggests that incentives of any type, rewards and penalties – monetary like bonus rate, high fixed pay and non – monetary like gifts, long term relationships, recognition and fines improve coordination in organizations, save for the few exceptions arising from sabotage, favoritism, influence peddling and distortions of moral obligations. One can therefore conjecture that coordination failure in government offices is likely to be associated with incentives offered in government offices, hence part of hypothesis

three of the study. In this study the evaluation tool for measuring the effectiveness of incentives constructed by Bloom & Van Reenen (2010) is applied to government offices and to it constructs regarding distortions are added and explored.

## **2.5. Conclusion**

Several studies have been undertaken using experimental games to study the multiplicity in equilibria and the reasons behind the common occurrence of coordination failure. Such studies establish that the presence of strategic uncertainties, complementarities and the level of interaction needed in the execution of work make multiplicity in equilibria inevitable and hence a high need for coordination if superior outcomes are to be attained.

Coordination games studies also establish that communication, leadership and incentives can influence behavior that moves organizations from coordination failure to efficient equilibrium. Studies based on field observations have also established that knowledge of targets increases the desire to achieve them and hence eliminates uncertainties thus reducing coordination failure.

To my knowledge, common to experimental game studies on coordination failure is the fact that their findings have neither been followed up with field studies nor been applied to government offices yet they also face inefficient practices and unsatisfactory performance that may be described as coordination failure. This is true with recent studies on productivity that have alluded to management practices as an explanatory factor to variations in

productivity across firms and thus established that management training contributes to increased productivity. These studies have also not been undertaken in government offices.

This study therefore is the first attempt to relate inefficiency and performance problems to coordination games in a field study as opposed to laboratories. Attempts to measure “administrative capabilities” are still new. While these attempts for example highlight the principal-agent relationship (Milgrom and Roberts, 1992), mine is about coordinating situations in which agents are multiple and complement with each other. It is also new to apply the theory of coordination games to micro-micro settings like government offices. This study therefore explores coordination failure and its correlates in government offices and draws the following hypotheses from the reviewed literature.

H<sub>1</sub>: The outcome of a government official’s decisions and the choices made by the people they are interacting with are positively correlated as in a coordination game.

H<sub>2</sub>: The inefficient practices observed in government offices are positively correlated with coordination failure.

H<sub>3</sub>: Coordination failure in government offices is closely associated with communication, leadership and incentives.

In order to substantiate the above hypotheses, I draw variables for coordination games, coordination failure, communication, leadership effectiveness and incentive structures from the reviewed literature and formulate questions related to them. I also select and ask questions on three activities undertaken in government offices that need coordination for their success, coupled to the proxies of performance which I use as objects of analysis for

coordination failure. I substantiate the relationship between communication, leadership, incentives and coordination failure using fixed effect regressions, linear probability models the ordered probit and the xtoprobit models.

## **CHAPTER 3**

### **Study Area and Data Collection**

#### **3.1. Study Area**

The study is carried out in the public service of the government of Uganda. Uganda's public service is composed of all persons duly appointed by the appropriate service commission or any other relevant appointing authority to hold or act in any office in the public service. The public service enables government to formulate and implement policies and programs intended for the development of Uganda (Government of Uganda, 2010).

The public service of the Republic of Uganda comprises of both the central and local governments. This study focuses on the central government which consists of ministries, departments and agencies, but narrows down the scope to only ministries. The study focuses on ministries because they form the core of the public service and head 99% of government sectors in addition to forming 66% of central government offices. All ministries as of December 2015 are included in this study and the Office of the Prime Minister as a coordinating agency for government business.

Uganda like many countries acknowledges the contribution of the public service to economic development and has continued to make stronger commitments to improving public service delivery. Uganda is a former British protectorate that inherited a bureaucratic public sector structure from the British in 1962. From 1962 public service delivery deteriorated resulting from civil wars that rocked the country and failed the entire government structure. The country experienced several regime changes characterized by military coups

with each new government introducing reforms geared towards rebuilding the nation. The current government came to power in 1986 through a protracted people revolution that promised to solve among others, difficulties in the delivery of social services, inefficiencies in central government, over centralized public sector and general distortions in the economy (Olum, 2003). The new government immediately conceptualized public service reforms with an intention of correcting distortions from previous regimes and optimizing resource utilization that was then in scarcity. The government has since the late 1980s undertaken several public service reforms beginning with the World Bank Structural Adjustment Programs (SAPs).

The public service reform initiatives are geared towards improving the performance of the public sector. The reforms are in three categories. The first is the Civil Service Reforms undertaken from 1986 - 1993 as per the SAPs. They include restructuring of the public sector, downsizing it, liberalization of some government agencies and decentralization of the central government to autonomous local governments.

The second is institutional reforms that led to the change of the constitution in 1995, the establishment of the leadership code Act in 2002, the Budget Act, code of conduct and ethics in 2005, Anti-Corruption Act in 2008, Anti-Corruption Court, Whistle Blowers Act in 2009 and others. The establishment of these Acts resulted in the proliferation of a number of institutions like the Inspector General of Government (IGG), Office of the Auditor General (OAG), Uganda Revenue Authority (URA) and others.

The third category of reforms are operations reforms undertaken from 1997 to date that have led to the introduction of cash budgeting, pay reforms, public expenditure reviews, result oriented management, output oriented budgeting, Integrated Personnel and Payroll System and presently outcome oriented budgeting and performance based reporting. These reforms present continuous changes in operational and reporting procedures all aimed at improving the capacity and performance of the Public Service (Pila Consultants, 2011; Ramadhan, 2014).

The several continuous reforms are themselves a manifestation of a problem. Despite the several reforms, the public service is still criticized for being slow, corrupt, inaccessible and rigid, and as a result unresponsive to the needs of the people (MOPS, 2011).

### **3.2. Structure of the Ministries**

Ministries are the focal organs through which government develops and executes its policies and programs on a day to day basis. Each ministry is headed by a Minister, who is assisted by other Ministers of State as the President may deem fit and by one Permanent Secretary. As the key principle advisor to the Minister, the Permanent Secretary supervises the day to day operations of the ministry to ensure the implementation of government policies and is responsible for the proper expenditure of public funds by or in connection with the ministry (The Cabinet Secretariat 2012 :p.12).

Under the Permanent Secretary are Directors, who head the key directorates within a ministry. The directorates are subdivided into departments headed by a Commissioner or Assistant Commissioner with each department having different activities which all feed into

the mission of the ministry. The departments are further subdivided into divisions, some of which are subdivided into sections or units. Although this categorization varies from ministry to ministry, normally the staff under the sections or units are directly under the supervision of the head of department who represents them in senior and top management meetings. This study focuses on departments and individuals within the department as units of analysis and uses the terms “departments” and “offices” interchangeably.

### **3.3. Sampling and Data Collection**

Since ministries’ activities are related to almost all the sectors in the country and since ministries are highly involved in determining, formulating and implementing the policy of government (The Cabinet Secretariat 2012, p.12), this study focuses on all the ministries as of December 2015 and the Office of the Prime Minister (OPM), a coordinating agency. The new government sworn in to power in February 2016 undertook reshuffles that created new ministries in April - May 2016, but this study does not include the established new ministries. The population of the study is thus 178 departments and individuals working in the departments in the 19 ministries and OPM. Overall, 400 respondents categorized into 100 managers (heads of departments) and 300 officers under the supervision of the managers were required to be included in the study. Sampling and data collection was done by myself with the help of enumerators from Hatchile Consult Uganda with financial support from GRIPS, under the supervision of Prof. Tetsushi Sonobe. Sampling procedures are described below.



Authorization to undertake the study was sought from the Head of Public Service and the Permanent Secretary of the Ministry of Public Service, which is responsible for all employees to be included in the study. With this approval, the study was also introduced to all Permanent Secretaries in the respective ministries for clearance.

Once cleared, the number of departments in each ministry was obtained from the human resource office. Departments to include in the survey were randomly selected based on proportional allocations across all ministries. This means that ministries with more departments had more departments included and hence more respondents selected for the study. Ideally, we should have based the allocation of the sample across ministries and departments on the number of officers in the departments, but the information on the number of officers by department was not available before the survey except for a small number of ministries and departments. I could not know the number of officers in some departments until I or my enumerators made a personal interview with the heads of those departments.

Since the units of analysis are departments and individuals, data were collected from 4 employees from each randomly selected department. A head of department who is referred to as a manager in the study and three officers under the supervision of the selected manager were selected for interviewing. If a department had more than three officers other than the manager, I randomly selected three officers. Working this way, I selected 400 officers including 100 managers ( $400/4 = 100$  departments from a total of 178 departments) and 300 officers across the 20 Ministries. Where the selected respondent was not in the country or declined the interview for some reasons, a substitution at the individual level within the same

department was randomly implemented. Where a manager declined to be interviewed, the whole department was dropped and a replacement randomly selected. This happened with only one department. Reasons for refusal included busy schedule, short notice, some wanted to be paid in order to respond and others could not just be traced within the authorized period. Data was successfully collected from 385 respondents including 88 managers and 297 officers. Table 3.1 presents the number of respondents successfully interviewed from each ministry.

Two questionnaires were designed and administered through face to face interviews where the enumerator interviewed and filled in the responses given by the respondent or through self-administered interviews where the respondent asked to fill the questionnaire by him or herself. One questionnaire was used to interview managers and the other to interview the officers who are under the supervision of the interviewed manager.

Based on the review of literature from the previous chapter, variables for coordination games, coordination failure, communication, leadership effectiveness and incentive structures are drawn and questions related to them designed following the hypotheses of the study. Data is collected on individual characteristics, office characteristics and views about the manager's and officer's perception of their colleagues' behavior towards the explored variables.

In order to establish that there is a positive correlation between the outcome of a government official's decisions and the choices made by the people they are interacting with as in a coordination game, I use meetings as an activity that is routinely undertaken in

government offices which need coordination for their success. I however focus on time keeping for meetings to demonstrate how a government officer would behave towards time keeping for a departmental meeting given the way colleagues behave.

Time keeping for meetings refers to the punctuality or lateness exhibited by a staff during the attendance of a meeting. Meetings are crucial in offices because they offer a platform for simultaneous interactions and information sharing regarding key policy issues. The efficiency and effectiveness of meetings partly influences productivity in the office. Because of their importance, meetings form part of the core activities undertaken in government offices. Based on that and the fact that meetings require a high degree of interdependency / complementarity for their success, the study uses them to illustrate the coordination game and coordination failure situation in government offices. While participation in a meeting is also dependent on whether the official expects the meeting to be beneficial or not, this study focuses on time keeping for departmental meetings, that is, the punctuality or lateness for the meeting.

Previous studies carried out experimental games and observed the behavior of players given the way fellow players played under conditions of certainty and uncertainty but we use hypothetical questions with a game in mind. We ask respondents about their time keeping levels under conditions of certainty (knowing how their managers and colleagues would behave towards time keeping) and uncertainty. For example, we ask respondents whether they keep time for a meeting if they are certain that the manager keeps time. We inquire whether they keep time if they are not sure that colleagues would keep time and whether they

keep time if they expect their manager to be late. The responses are compared to the self-reported expected time keeping levels for meetings which this study considers as a better outcome (dominant equilibrium) for all concerned. This shows the complementary nature of work in government offices despite the codified blue print that governs operations and hence addresses the hypothetical concern presented in figure 2.2 of this study.

In principle according to the public service code of conduct section 4.1, all civil servants are expected to keep time (be punctual) all the time unless otherwise, and the deviation from that is expected to be earlier communicated. A public officer is required to have strict regard to working hours and not to report late to office meetings or official functions without reasonable cause. This implies that the mandatory desired equilibrium or outcome for everyone is “all officials keeping time all the time”, which translates to 100% level of time keeping according to the standing orders / codified blue print that governs operations in government offices. Because it is difficult to attain a 100% score, this study considers the self-reported expected time keeping levels for meetings as the desired outcome (dominant equilibrium).

To show that the inefficient practices in government offices are positively correlated with coordination failure ( $H_2$ ), I use report writing to illustrate how superior outcomes can be attained with coordination. From experience, civil servants are supposed to write activity reports every after an activity though some departments write monthly reports depending on leadership needs. However, quarterly reports are mandatory since ministries have to account for the funds received in a particular quarter of the year before another release is expensed.

Each department is expected to compile a quarterly report and submit it for the overall compilation of the ministerial report that is submitted to the Ministry of Finance, Planning and Economic Development and to the Office of the Prime Minister. The study focuses on the participation level of officers and the manager in the production of this report.

Pre-play communication regarded as reminders to submit inputs to the departmental report and feedback after submission of the report are used as coordination mechanisms to illustrate how superior outcomes (increased participation in report writing) can be achieved with coordination. Respondents are thus asked for the level of participation in report writing with reminders, without reminders and with feedback. These are compared with the actual perceived level of participation in report writing by both the managers and officers.

To show the complementary nature of work in government offices, the best methodology would have been an experimental game undertaken in the office. Two groups would have been made with one group participating in report writing with a reminder and the other participating without a reminder, and then we observe which group participates more. The same would be done for feedback; with a manager's involvement and with the provision of a template. This was not possible because of financial and administrative constraints.

In order to construct communication in government offices, communication indicators drawn from previous studies including the level of interaction, information sharing, feedback, responsiveness and message interpretation are aggregated. For leadership I aggregate key characteristics of a leader drawn from literature including a manager's ability to induce action (mentoring officers towards better performance), to steer direction, to

conform to the ethical code of conduct, his credibility and his ability to control what subordinates do.

I continue to construct incentives by aggregating some of the constructs in the evaluation tool used by Bloom et al. (2010). I capture rewarding high performance, sanctioning poor performers, promotion based on pay, ability to promote job related talent and to attract and retain an outstanding performer if he or she wanted to resign. I then subject the variables to correlation to establish the pattern of relationships. Some of those that are closely related are left out of the analysis.

Categorical questions with a scale of 1 to 5, with 5 being the highest score are administered. A high score from each variable implies the best practice that would on average lead to the attainment of a superior outcome. The aggregation of the scores from each indicator reflects the level of each variable under consideration.

To study the relationship between coordination failure and communication, leadership and incentives (H<sub>3</sub>), this study uses fixed effect regression, the linear probability model, the ordered probit and xtoprobit estimations to regress the objects of analysis for coordination failure on communication, leadership and incentives. Individual characteristics, office characteristics and ministry fixed effects are controlled for and in all regressions I cluster standard errors at departmental level. All the 'I don't know' answers are excluded in the analysis.



## CHAPTER 4

### **Coordination Games and Coordination Failure in Government Offices of Uganda.**

#### **4.1. Introduction**

As earlier noted, several scholars have used laboratory experiments to establish that coordination failure is a common occurrence that leads to unsatisfactory results in the context of assembly lines and other situations with complementarity among players (Brandts & Cooper, 2006, 2007; Brandts et al., 2014; Cooper et al., 1990, 1992, 1993; Devetag & Ortmann, 2007 and Van Huyck, et al., 1990, 1992, 2007). To my knowledge, no field studies on coordination failure have been done in especially small work places like government offices yet they also face inefficient practices like poor time management, absenteeism, inability to sequence work, non-responsiveness, poor filing, political interference and others as exhibited in table 4.1 and unsatisfactory performance as presented in table 2.1. One may wonder whether the inefficient practices observed in government offices, as well as the resulting unsatisfactory performance, are correlated with coordination failure within offices.

This chapter explores inefficient practices and coordination failure in government offices. I postulate that there is a positive correlation between the outcome of a government official's choice of action and the choices made by the people they are interacting with as in a coordination game. In the chapter I continue to examine whether the inefficient practices observed in government offices can be described as coordination failure.



To provide suggestive evidence with regards to the goals above, the study uses time keeping for departmental meetings and participation in the writing of the quarterly report as objects of analysis of coordination games and coordination failure. They are used because they are activities undertaken in government offices that need coordination for their success as presented in chapter 3.

Descriptive evidence from the study suggests that the outcome of a government official's choice of action is likely to depend on the choices made by the people they are interacting with as in a coordination game. A government officer is likely to keep time if he is certain that colleagues will keep time and may not keep it if he expects colleagues or the manager not to keep it; and is likely to shirk if he expects other to shirk and so on. The level of complementarity (consideration of others when making decisions concerning work) is relatively high reported by 65% of the respondents, to the extent that 84% of the respondents report to keep time if they are certain that their manager would keep time as compared to 45% who would keep time if they knew their manager would be late for a meeting. Only 17% of the respondents report to keep time if they are uncertain that colleagues would keep time. This suggests that the action of one officer is likely to depend on how the officer expects colleagues to act as in a coordination game.

Findings further suggest that the inefficient practices in government offices can be described as coordination failure. Though inferior outcomes are more often observed, descriptive evidence suggests that superior outcomes can be observed with coordination. Relating report writing as an object of analysis of coordination and pre-play communication

as a coordination mechanism reveals that the level of participation in report writing increases to 82% from 51% with pre - play communication, that is, when reminders are circulated and it declines to 40% without reminders. However with feedback on the produced report the level of participation in subsequent report writing is perceived to increase to 70% which is above the actual participation level of 51%.

Surprisingly, only 46% of the respondents, managers inclusive, report to forego their private cash business transactions to attend to office work during office time. Results further reveal that 74% of the government officials have experienced inefficient practices and 58% rate poor time keeping as the most inefficient practice in government offices. The effort to conformity to institutional rules is reported by 49% of the respondents. It is no wonder that 46% of the respondents, managers inclusive, report to forego their private cash business transactions to attend to office work during office time. 35% have experienced a feeling of underutilization. These are perfect indicators of the likely hood of coordination failure in government offices.

The rest of the chapter is structured as follows. Section 4.2 provides background information on inefficient practices and the performance of the public sector in Uganda. Section 4.3 presents data and findings of the study, while section 4.4 presents concluding remarks.

#### **4.2. Inefficient practices in the public sector of Uganda.**

As earlier noted, in a preliminary study undertaken in 2015, the Permanent Secretaries and other government leaders discussed with pointed out that government offices face a number

of inefficient practices that hinder them from performing better. Some of the inefficient practices identified include poor time keeping, no incentive for hard work, poor filing, political interference, poor sequencing of work and others. This study undertook a field study in which the listed inefficient practices were verified. Findings are presented in tables 4.1.

From table 4.1, results indicate that there is no statistical difference in the means of the officers and managers with regards to the explored variables except for experience of inefficient practice and poor filing. Managers have experienced the inefficient practices and poor filing more than their officers.

Results indicate that 74% of the respondents have experienced inefficient practices in the process of doing their work. The most inefficient practice reported is poor time keeping experienced by 58% of the respondents, followed by poor communication (54%), poor filing (51%), and inadequate incentive for hard work by 50% of the respondents, poor leadership by 47%, and political interference by 46% coupled to poor sequencing of work by almost 46%. The inconsistencies in the scores between managers and officers are minimal implying that both parties are in agreement with regards to the presence of these inefficient practices.

Camerer & Weber (2013) use a meta-analysis of experimental games studies and establish that the presence of persistent inefficient practices in an organization is a manifestation of coordination failure. One wonders whether these inefficient practices in government offices are closely related to the coordination game nature of government work to be described as coordination failure in government offices and whether the inefficient practices can be improved with coordination.

More still results in table 4.1 indicate that there are statistically significant differences in the mean scores of officers and managers with regards to the frequency of holding departmental meetings. Meetings are crucial for the effective performance of organizations as they offer a platform for direct communication and simultaneous interactions. Despite their importance the reported inconsistencies is an indication of a gap. On average 6% of the respondents report holding daily meetings of which 19% of the managers report holding daily meetings while 2% of the officers report the same. For weekly meetings, 33% of the officers report holding them while 7% of the managers report the same. 42% of the officers report holding monthly departmental meetings as compared to 28% of the managers. For quarterly departmental meetings, 46% of the managers report holding them as compared to 21% of the officers. Such inconsistencies should not manifest from staff working together in the same ministries and similar departments. Meetings are explored because they are later used together with time keeping as an object of analysis for coordination failure since they need coordination for their success. Communication, leadership and incentives are later used as management tools or coordination mechanisms that can escalate or eliminate coordination failure in government offices.

#### **4.2.1. The Performance of the Public Sector of the Government of Uganda.**

As earlier noted, the government of Uganda has undertaken several public service reforms intended to improve the performance of the public sector. Despite the reforms, the public service is still criticized for being slow, corrupt, inaccessible and rigid, and as a result unresponsive to the needs of the people (MOPS, 2011). Government offices still face inefficient practices as exhibited in table 4.1. More so, performance is reported to be

unsatisfactory as portrayed in table 2.1 drawn from the Government Annual Performance Report (OPM, 2015).

Table 2.1 is a summary of the overall government performance from the financial year 2012/13 to 2014/15. The report shows the performance of government against the key set objectives and indicators with strict emphasis on the contribution of sectors to the selected indicators. The OPM computes the overall annual government performance from scores reported by each ministry against the set annual targets set by the ministry. Table 2.1 indicates that the overall achieved outcome performance for financial year 2014/15 is 54%, 47% for 2013/14 and 46% for 2012/13. The outcome performance of 54% means that only 54% of the ministries met their set annual targets. While there has been an improvement in performance, probably due to the output oriented budgeting followed by performance reporting that mandates stakeholders to submit their performance reports to the Prime Minister's office every year, performance is still considered unsatisfactory (OPM, 2015). One wonders whether the explored inefficient practices and the resulting unsatisfactory performance can be described as coordination failure in government offices.

### **4.3. Data and Findings**

As highlighted in the previous chapter, the data used in this and the next chapters were collected from 20 ministries of the Republic of Uganda with authorization from the Head of the Public Service and the Permanent Secretary of the Ministry of Public Service. Using stratified random sampling, 100 departments are selected from the 20 ministries. One manager and three respondents from each department are targeted to be interviewed. The

study successfully interviews respondents from 88 departments 69 of which have a full set of the targeted one manager and three officers per department. In total 385 respondents categorized into 297 officers and 88 managers are interviewed instead of the targeted 400 respondents. Findings from the interviews are presented in the next sections and a comprehensive descriptive table is attached as Appendix 4.

#### **4.3.1. Individual Characteristics**

I needed to know the type of people I'm dealing with and thus explored the individual characteristics of respondents. I present results in table 4.2. The table shows a statistically significant difference between the means of the managers and officers in most of the individual characteristics except gender. Managers are older by 8.6 years which is expected because they joined earlier and promotions in the civil service are partly attributed to years of experience. Managers have more years of formal schooling, 84% having a masters' degree. This is probably because of the training opportunities that exist in civil service including some training facilitation, study leave and foreign scholarship opportunities. These are undertaken upon approval by the manager.

Females are fewer in the general civil service and they form 29% of the respondents in the study. The biggest percentage of the officers interviewed are at the entry level. This is probably due to the recruitment drive undertaken by Public Service Commission to endeavor to bridge the gap brought about by the nine year ban on recruitment that resulted from the SAPs program of leaning the public service or due to the longtime it takes promotions to be

effected. Promotions only take place when vacancies appear and the career ladder gets too narrow as it gets towards the top.

From table 4.2, descriptive results suggest that civil servants are mature people, they are experienced and well educated. It is strange for such intellectuals to persistently fail to keep time for meetings, to absent themselves from work, and later fail to attain their set goals. The individual characteristics explored are later used as controls in chapter 5 since they have an effect on the outcome variables.

#### **4.3.2. Office and Job Characteristics of the Respondents**

I also explore office and job characteristics by asking categorical questions with scores ranging from 1 to 5, with 5 being the highest score. The variables captured in the table are dummies that take on value 1 if the response is 4 or 5, and otherwise 0. Results are presented in table 4.3. The majority of the respondents (88%) have had at least 3 on the job trainings in the last five years. On the job training adds knowledge and skills necessary for better performance on the job. The majority (72%) have clear job descriptions though managers report clearer job descriptions. Results show a statistically significant difference between the means of the managers and officers with regards to the number of on the job trainings received in the last five years and the clarity of job descriptions. Managers report a higher percentage which is expected because training opportunities are channeled through them and they also assign work to the officers under their supervision.

The majority of the respondents (67%) work in line with their job description while 35% of the respondents have experienced a feeling of being underutilized. Reasons for feeling underutilized include unchallenging work, little work and poor facilitation. 41% of the offices are kept closed during office time. 85% of the managers report knowing their set targets while 69% of the officers report knowing them. Despite the impressive figure, results indicate that there are staff, managers inclusive who seem not to know their set targets. 66% of the respondents desire to achieve the set targets. Van de Ven et al. (1976, p.324) emphasize that knowledge of the set targets tends to increase the desire to achieve them thereby reducing uncertainty and increasing the willingness to cooperate towards achieving the common goal.

Surprisingly, despite the public service code of conduct section 4.2 that desists a public officer from transacting private business in office or during office hours, 46% of the respondents report to forego a private cash business transaction to attend to office work during office time. The mean scores from both managers and officers are consistent implying that it is common knowledge amongst both parties that the majority of government staff (54%) would not fore go their cash business transactions to attend to office work during office time. The explored job characteristics are used as controls in chapter 5.

Because coordination involves integrating different parts of an organization in order to accomplish set goals, it is very important that the task each part has to play is made clear (Van De Ven et al., 1976, p.322). I explore the relationship between having a clear job description and the perception of other office characteristics and present results in table 4.4.



Ideally, all officers are expected to be given a job description (schedule of duties) that specifies the activities / tasks they are supposed to undertake in the department.

As per my expectation, results suggest that those with clear job description are less likely to feel underutilized, tend to work in line with their schedule of duties and are knowledgeable of the set targets as compared to those who report not having a clear schedule of duties. It may be that those who report unclear job descriptions have a negative character but there is also a likelihood that a clear job description is associated with a feeling of underutilization and other related factors explored in table 4.4. Managers therefore ought to ascertain that officers under their supervision have clear job descriptions. On the job training, clear job description, knowledge of targets and the level of utilization are used in analysis in the later chapters.

#### **4.3.3. Coordination Games and Coordination Failure in Government Offices**

I use variables drawn from early path breaking studies of coordination and coordination failure by Van De Ven et al. (1976); Van Huyck et al. (1991); Cooper et al. (1992) and Devetag & Ortmann (2007). All these four studies are agreeable to the fact that basic to a theory of organizations is the premise that all organizations need coordination for their success. The first study by Van De Ven et al. (1976) investigated how variations and interactions in the use of coordination mechanisms and modes (programmed / blue print, and unprogrammed / simultaneous interactions and feedback) are explained by task uncertainty, interdependence and unit size.

Van Huyck et al. (1991, p.234) and Cooper et al. (1992) used experiments to establish that coordination failure is a common occurrence that arises from complementarities and strategic uncertainties which lead to the multiplicity of equilibria. To qualify to be a coordination game, there has to be complementarity amongst players, different strategies from which a player chooses to play, a payoff for each strategy and a desired goal. Also both players can be able to achieve the best outcome from the multiple equilibria if they coordinate. This means that players have to find mechanisms for coordinating in order for them to choose the best outcome / equilibrium, otherwise an inferior outcome will be common. Devetag & Ortmann (2007, p.332) carried out a qualitative review using evidence from Van Huyck et al. (1990, 1991) and Cooper et al. (1992) to classify the major classes of structural, cognitive and behavioral determinants that seem to affect coordination failure in the laboratory.

Variables for both coordination games and coordination failure from these studies are hence drawn and used in this study. The variables drawn for coordination games include knowledge of targets, desire to achieve the set targets, interdependency / level of interaction, consideration of others when making work related decisions or actions, and payoff uncertainty. From literature, knowing targets increases the desire to achieve them thus eliminating uncertainties that can lead to coordination failure. A high level of interdependency or interaction in the process of executing work, a high level of consideration of others when making work related decisions coupled to a high level of payoff uncertainty increases uncertainty amongst players making multiplicity in equilibria inevitable.

The variables from the review of literature drawn for coordination failure include effort to conformity to institutional rules and the proxies of performance. To Devetag & Ortmann (2007) organizations where the effort to conformity to institutional rules is low are very likely to face coordination failure. Because previous studies emphasize that coordination failure makes organizations stuck with unsatisfactory performance for all concerned, I also explore the presence of coordination failure in government offices using performance indicators that include the quality of work done, performance improvement in the past two years and the provision of fair and equitable treatment of officers. These variables are drawn from Kim (2005) who studied the effect of individual level factors on organizational performance and measured the performance of the Korean public sector based on the perception of organization's members on different aspects. Some of his results suggest that organizations where the quality of work is good tend to perform well, and organizations that have experienced performance improvement in the last two years manifest good performance and those that treat their staff in a fair and equitable way tend to perform well.

For coordination failure, this study also uses representative activities undertaken in government offices that need coordination for their success as objects of analysis for coordination failure. Such activities include meetings, report writing and the effort level put to actual work in a day.

Meetings are crucial in offices because they offer a platform for simultaneous interactions and information sharing regarding key policy issues. Because of their importance, meetings form part of the core activities undertaken in government offices. Based on that and

the fact that meetings require a high level of interdependency / complementarity for their success, the study uses them to demonstrate the coordination game and coordination failure situation in government offices. However focus is laid on time keeping for the meetings since time keeping has been reported as the most inefficient practice in government offices.

Writing of the quarterly report is selected because it is also an activity undertaken in government offices that needs coordination for its success. From my experience as a civil servant, civil servants are supposed to write activity reports every after an activity though some departments write monthly reports depending on leadership needs. However production of a quarterly report is mandatory since ministries have to account for the funds received in the quarter of the year before another release is expensed. Officers are supposed to give an input in line with their schedule of duties and submit to the focal person in the department who compiles all inputs as a quarterly departmental report and submits it for the overall compilation of the ministerial report that is submitted to the Ministry of Finance, Planning and Economic Development and to the Office of the Prime Minister. A delay in the submission of inputs from officers implies a delay of the entire process. Therefore the production of this report needs coordination of the different units so that submission is done in time. This study focuses on the participation level in the production of this quarterly report.

For effort level put to actual work in a day, according to the standing orders a government officer is expected to be diligent to his work and actually signs an acceptance letter upon being offered an appointment for a government job. He commits to serve anywhere that he or she is posted and to adhere by the standing government procedures in

this case report for duty at 8:00am and leave at 5:00pm which is eight hours a day. Drawing from Brandts and Coopers (2007), the effort level in the study is measured by the number of hours put to actual work instead of loafing.

We use these variables to form categorical questions with responses on a five point scale ranging from 1-5, with 1 being very low and 5 being very high of the measured variable. For coordination games variables in table 4.5, I ask for the perception of respondents with regards to how interactive their fellow officers are when executing assignments, I ask for the extent to which they consider their fellow officers' work related actions or behavior when making decisions concerning the department, I ask for the extent to which work related actions of fellow officers affect the respondent's performance and I ask for the proportion of officers that are clear about the benefits associated with achieving the department's set targets. Responses for each are presented in table 4.5. The variables captured in the table are dummies that take on value 1 if the response is 4 or 5, and otherwise 0. Results for the level of interaction and consideration of others when making decisions concerning work are high implying that the level of complementarity is high, hence a high likelihood of multiplicity in equilibria. Good enough, the benefits associated with achieving the set targets are reported to be clear by 68% of the respondents. Coordination is very likely if the benefits are clear.

Under coordination failure indicators in table 4.5, I ask for the perception of the respondent with regards to the effort the department invests in conforming to the set institutional rules, I ask for the effort level put to actual work in a day, I ask for the perceived time keeping level for meetings, for the perceived participation level in writing of the

quarterly report and whether the respondent has experienced inefficient practices. The responses for each question are on a scale of 1 to 5 with 5 being the highest score. The variables captured in the table are dummies that take on value 1 if the response is 4 or 5, and otherwise 0. Results indicate that the effort to conformity to institutional rules is low reported by 49% of the respondents. The effort level put to actual work in a day is good reported by 78% of the respondents, time keeping levels for meetings is also high reported by 62% of the respondents though with a statistical difference in means between managers and officers. Participation level in writing of the quarterly report is perceived to be at 51% and 74% of the respondents have experienced inefficient practices with managers experiencing it more.

The reported high interdependence and consideration of others requires staff in government offices to act consistently with one another which calls for high coordination. Coupled to that, the statistically significant differences in the means of the officers and managers represent inconsistencies that are likely to present multiplicity in equilibria like that experienced in coordination games.

Under the performance indicators which are also regarded as coordination failure indicators since performance is considered to be unsatisfactory in government offices, I ask respondents how they rate the quality of work performed by their fellow officers in the department. I ask them how they would rate their department in terms of improvement in productivity over the last two years and I ask for their rating with regards to providing fair and equitable treatment for employees. Responses to the questions are on a scale of 1-5, with

5 being the highest score. The results captured in table 4.5 are dummies representing 1 for scores 4 and 5, and otherwise 0. Results indicate that there is no statistical difference in the perception of managers and officers with regards to all the three variables. The majority (81%), regard the quality of work to be good, 62% consider productivity to have improved in the last two years and 68% consider treatment of staff to be fair and equitable. Scores from productivity improvement are consistent with those reported in the annual government report in table 2.1. These variables can be described as production failures. However from the definition of coordination failure adopted by this study, coordination failure is the persistent attainment of inferior results or outcomes when superior outcomes can be attained. Since these production failures are resulting into inferior outcomes that are considered unsatisfactory the study considers them as objects of analysis of coordination failure.

A performance index is then constructed by summing up the totals of those variables from the 385 observations. Since they have a scale of 1 to 5, with 5 being the highest score, the maximum sum generated is 15. The categorization of low, moderate and high is generated with 80% being considered high. 80% is considered high because it is slightly higher than the third quartile. 50% moderate and below 50% low. Considering that 15 is equivalent to 100%, then 80% is equivalent to  $(15 \times 80) / 100$  which is equal to 12. This implies that a high score ranges from 12-15, moderate 7-11, and low 0-6. The performance categorization is presented in table 4.6. Results indicate that, the majority of government offices (52.2%) report their performance to be high which is surprisingly consistent with the annual government report that presents 54% of the ministries to have achieved their set targets.

The explored coordination and production failure indicators including time keeping for meetings, participation level in report writing, the effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers are used in the next chapter as objects of analysis of coordination failure.

I examine the likelihood of a coordination game situation in government offices using time keeping for departmental meetings. As earlier noted, timekeeping has been reported as the most inefficient practice in government offices. Time keeping for meetings refers to the punctuality or lateness exhibited by a staff during the attendance of a meeting.

While previous studies used experimental games and observed the behavior of players given how their counterparts behave under conditions of certainty and uncertainty, in this study we use hypothetical questions framed with a game situation in mind. Respondents are asked about their time keeping levels if their colleagues or managers behaved in a certain way with regards to time keeping under conditions of certainty (knowing how the other person would act) and uncertainty. The questions are intended to show the level of dependency or complementarity amongst staff.

Since the standing orders require a public officer to have strict regard to working hours and not to report late to office meetings or official functions without reasonable cause, the best desired equilibrium or outcome for everyone would be “all officials keeping time all the time”, which translates to 100% level of time keeping. Because 100% is very difficult to achieve, this study considers the self-reported expected time keeping levels for meetings as



the best desired outcome (dominant equilibrium). Results from the study are presented in table 4.7.

From the table, 63% of the respondents report that they expect the majority of the officers to keep time during formal departmental meetings while the actual level of time keeping for meetings is reported by 62% of the respondents. Note that this is self-reported but the percentages are lower than the 75<sup>th</sup> percentile which is an indication of inferior outcomes. The question is whether there is multiplicity in equilibria, complementarity and whether superior results can be achieved with certainty and inferior results with uncertainty as in a coordination game with Pareto ranked equilibria as illustrated in figure 2.2.

Results in table 4.7 show descriptive evidence for interdependence / complementarity and multiplicity in equilibria. 45% report keeping time when certain that the manager is late implying that only 45% will abide by the standing instructions regardless of whether manager keeps time or not, the rest will not. This is a case of inferior outcomes, which is coordination failure. When certain that the manager keeps time, 84% report that the majority will keep time and the responses between managers and officers are consistent. If they are not certain that their colleagues would keep time, only 17% report to maintain keeping time, the rest will not. The level of time keeping given how others behave towards time keeping for the same departmental meeting under conditions of certainty and uncertainty present a case for complementarity and Pareto ranked equilibria with an inferior outcome reported by the majority under uncertainty and a superior outcome under certainty. We note that it is common knowledge and managers seem to know this situation more than their officers. The variable

time keeping when manager is late had an option of 0 representing never come late, to which 35% of the officers and 14.8% of Managers responded as to never come late respectively for meetings. The rest confessed to late coming though at varying degrees.

The discrepancies in the expected and actual level of time keeping coupled to the reported variations in the levels of time keeping given the time keeping levels of colleagues or a manager under different conditions of certainty or uncertainty indicate multiplicity in equilibria hence a coordination game situation in the office. This addresses our hypothetical concern presented in figure 2.2 and hypothesis one of this study.

Results show interdependency and complementarity in the offices and suggest that it is common knowledge amongst both parties that colleagues are likely not to keep time if they expect others not to keep it and vice versa, which presents a coordination game situation. A government officer is likely to put maximum effort if he or she expects others to put maximum effort, is willing to shirk if others shirk which presents a coordination game situation in government offices. The presented scenario of one's actions being influenced by others has been experienced by 63% of the respondents. In order to curb the effect of inefficient behavior like late coming on others, respondents report that the effect of such influencing behavior is discussed in subsequent meetings and culprits are sometimes cautioned. Others report referring the matter to higher authorities, ignoring culprits and punishment which is rarely resorted to. From the discussion, we therefore conclude that there is a positive correlation between the outcome of a government official's decisions and the

choices made by the people they are interacting with as in a coordination game hence justification of hypothesis one of the study.

The illustrated situation hence calls for mechanisms to improve certainty of the parties involved in the interaction if better results are to be achieved. From literature, communication, leadership and incentives have been established to have focal influence on the choice of action. This is further expounded in the next chapter. Despite the complementarity, relating time keeping levels with other office and job characteristics in table 4.8 reveals that offices which report a high conformity to institutional rules also report a high level of time keeping. Closed door offices report a lower level of time keeping while those with clearer job descriptions report high time keeping levels and those who feel underutilized report a lower time keeping level. This implies that a higher effort to conformity to institutional rules is likely to lead to superior results.

#### **4.3.4. Inefficient practices as coordination failure in government offices**

To show that the inefficient practices in government offices can be described as coordination failure ( $H_2$ ), I use writing of the quarterly report to show the Pareto ranked equilibria and how superior outcomes can be attained with coordination. Note that coordination failure is a situation where inferior outcomes are commonly attained when superior outcomes could have been attained. As earlier noted, writing of the quarterly report is selected because it is an activity undertaken in government offices that needs coordination for its success. It needs coordination because it involves collecting inputs from all departmental members and it has a time factor attached to it. Emphasis is on the production of the quarterly report which is

mandatory as it determines the timing of the next release of funds. A delay in the submission of inputs from officers implies a delay of the entire process, hence the need for coordination to ascertain full and timely submission. The study focuses on the participation level of officers and the manager in the production of this report.

As earlier mentioned, previous games studies used experimental games and observed how players behaved with pre-play communication, with feedback, with an exemplary leader, with a bonus and others as coordination mechanisms. In this study we use hypothetical questions mimicking a game situation. Pre-play communication regarded as reminders to submit inputs to the departmental report and feedback after submission of the report are used as coordination mechanisms to illustrate how superior outcomes (increased participation in report writing) can be achieved with coordination. Respondents are thus asked for the level of participation in report writing with reminders, without reminders and with feedback. These are measured against the general perceived level of participation in report writing by both the managers and officers. Findings are presented in table 4.9.

From table 4.9, there is consistency between managers and officers from all variables. 57% of the respondents write quarterly reports, which is less than the required level since this is a mandatory exercise that even has financial implications. 85% of the respondents expect the majority of the officers to participate in writing the quarterly report while the reported actual level of participation is 51%. The big deviation between the expected and actual level of participation is a clear manifestation of coordination failure in government offices. The deviation from the expected implies that some staff do not participate in report

writing. Ideally everyone with a schedule of duties is supposed to report about what they have been engaged in during every quarter of the year as a way of accounting for the funds expensed during the quarter.

Results suggest that the level of participation increases to 82% from 51% with pre-play communication that is when reminders are circulated and it declines to 40% without reminders. However with feedback on the produced report the level of participation in subsequent report writing is perceived to increase to 70% which is above the actual participation level of 51%. Results from table 4.8 offer descriptive evidence that inefficient practices in government offices can be described as coordination failure. An inferior outcome is achieved yet superior outcomes can be achieved with coordination. Pre-play communication and feedback are positively related with the level of participation in report writing. The level of participation also increases with a manager's involvement and with a provision of a template. This is further explored in the subsequent chapter using fixed effect regressions and order probit.

Since better outcomes can be achieved with coordination mechanisms and less outcomes achieved without coordination, then the coordination failure objects of analysis can be improved if mechanisms for coordination are strengthened. This therefore offers suggestive evidence that the inefficient practices in government offices can be described as coordination failure. Inferior outcomes are commonly observed yet superior outcomes can also be observed with improved coordination.

We compute the level of each coordination failure indicator and present results in table 4.10. From the table, the scores for all variables are less than the perfect score of 5 which is the highest level of coordination if ever attained. But since the attainment of 100% is very difficult we consider the 75<sup>th</sup> percentile as a good score / good coordination level. Therefore a score below the 75<sup>th</sup> percentile is considered an inferior one hence an exhibit of coordination failure.

$$\text{Level of Coordination failure} = \text{good coordination level (desired equilibrium)} - \text{Actual coordination level}$$

From table 4.10, 60% of the ministries have a score above the 75<sup>th</sup> percentile implying that they are likely to have a lower degree of coordination failure. Coordination level is higher in the ministry of defense which is expected because defense has a high regard for discipline, hierarchy and taking on of orders without question. Surprisingly, it is lower in the ministry of ICT and gender that are sentimentally considered not to have a clear mandate.

#### **4.5. Conclusion**

In this chapter, we have examined inefficient practices, the coordination game and coordination failure situation in government offices. Four sets of results can thus be drawn from this chapter.

First, descriptive evidence suggests that mature, educated and experienced people can face persistent inefficient practices that are too visible for anyone to deny their existence. The majority of government officials (74%) report to have experienced inefficient practices in the course of doing their work. The most inefficient practice reported is poor time keeping. For unsatisfactory performance, results from the annual performance government report (2015)

are almost consistent with those explored using performance indicators. From the performance indicators, 52% report performance to be high while from the annual government report, 54% are reported to have achieved their set targets. More still, the majority of government officers will not fore go their private cash business transactions to attend to office work during office time.

Second, like in laboratory experiments, this study offers descriptive evidence that government offices are also in a coordination game situation defined by multiplicity in equilibria. The Pareto ranked equilibria defined by superior outcomes with coordination and inferior outcomes without coordination have been exhibited by findings from this study. The effort level government officials put to work are likely to complement each other as in a coordination game. Inferior outcomes are likely to be observed arising from complementarities and uncertainties amongst players which make them choose an outcome that depends on how they expect their colleagues to choose. Because they are not sure of how their colleagues will play, they end up choosing an outcome they consider optimal / self-rewarding which in most cases is an inferior one that intends to just avoid risks attached to the superior outcome like waiting or fruitless effort. Thus the actions of an officer in a government office is likely to depend on how he or she perceives or expects others to act even with the codified blue print that governs operations in the office. This is in line with Brandts et al. (2007, p.1224) who establish that an employee only raises his effort if he believes that others will raise their effort as well. Results from this study for example suggest that the majority of government staff are willing to keep time if they expect others to keep time.

Third, under this coordination game situation, a rational decision maker is uncertain which action other players will make, which influences his or her behavior but more often ends up choosing the maxmin option. The officer is likely to end up being late because he expects others to be late, yet keeping time would be beneficial to both parties. This is less than the desired time keeping level where officers are expected to keep time for all official meetings. A lower outcome is variably achieved which is a manifestation of coordination failure and hence offers descriptive evidence that the inefficient practices observed in government offices can be described as coordination failure. Though inferior outcomes are more often observed, superior outcomes are likely to be achieved with coordination. The majority of officials participate in report writing with pre-play communication. Government offices are thus likely to be experiencing coordination failure. This finding supports the argument that coordination failure is a common occurrence and adds that it is not only common in assembly lines and firms, but it is also common in government offices.

Fourth, results suggest that government offices are trapped in the equilibrium rather than their ability. Since work in government offices is highly interactive / complementary and better outcomes can be achieved with certainty and coordination, then mechanisms for improving certainty and elimination of coordination failure in operations are highly needed. From literature such mechanisms include strengthening management tools like communication, leadership effectiveness and incentives coupled to ascertaining that staff know the set targets. From this chapter we note that offices which report a high conformity to institutional rules also report a high level of time keeping. Closed door offices report a lower level of time keeping while those with clearer job descriptions report high time keeping



levels and those who feel underutilized report a lower time keeping level. This therefore suggests that effort to conformity to institutional rules ought to be stepped up in order to achieve superior results.

## **CHAPTER 5**

### **Communication, Leadership, Incentives and Coordination Failure in Government Offices. A Case of Uganda**

#### **5.1. Introduction**

Experimental coordination games studies have established that coordinating actions to superior results remains difficult making coordination failure a common occurrence that affects productivity in the context of assembly lines (e.g., Brandts, et al., 2014; Cooper et al., 1990, 1992, 2007; Van Huyck, et al., 1990, 1991, 2007). In addition to that, from the previous chapter our field study has also offered descriptive evidence that the inefficient practices in government offices can be described as coordination failure implying that coordination failure is also common in government offices.

Since the inefficient practices in government offices can be described as coordination failure, then coordination mechanisms can certainly increase efficiency and performance in government offices. This chapter explores communication, leadership and incentives as coordination mechanisms that increase certainty amongst government officials and thus improve the objects of analysis of coordination failure thereby eliminating it in government offices. Experimental games literature established that communication, leadership and incentives have abilities to escalate or reduce coordination failure in firms and assembly lines. Can they also do the same in government offices? The study draws from the experimental games literature to postulate that communication, leadership and incentive structures tend to be closely associated with coordinating activities towards the desired outcome in government offices. Communication in this study focuses on sending a message or sharing information,

feedback, clarity of information, freedom of expression and frequency of interaction amongst different parties within a game, which is an office in our case. Leadership effectiveness is defined in terms of the ability to conform to the ethical code of conduct, ability to steer direction, to be considered credible, ability to communicate and to induce good performance of followers with an intention of focusing their beliefs and actions towards the most efficient equilibrium. Incentives are defined as an inducement that fosters desired action. Those considered in this study include rewarding high performance, sanctioning poor performers, promotion based on pay, promoting job related talent and retaining outstanding performers if they wanted to quit. These can be in form of recognition, bonus, trips, punishment, promotion and others.

Exploring the factors associated with coordination success or failure in government offices is of utmost importance because it points out areas that need strategic attention. It draws the attention of policy makers towards converging resources and effort to internal issues within their control that hinder officials from achieving the desired superior outcomes. This supports the continuous drive for improved public sector performance that development players and governments are committed to, Uganda government inclusive.

As presented in chapter 2, several scholars have undertaken experimental studies and established that coordination failure can be escalated or improved by a number of factors including communication structures (for example, Brandts et al., 2006, 2007; Cooper et al., 1990,1992; Devetag et al., 2007; Dong et al., 2015; Van Huyck, 1992;): leadership mechanisms (e.g., Brandts et al. 2014, Dong et al. 2015; Van Huyck, 1992 ): incentive

structures ( for example, Camerer & Weber, 2013; Gibbons & Roberts, 2013; Hamman, et al., 2007): organizational culture (Camerer & Weber, 2013); path dependency (Komijo, 2015) and others. Brandts & Cooper (2007) for example reiterate that communication, leadership and incentives have been established to be prominent coordination tools used to influence behavior that moves organizations from coordination failure to successful coordination. These studies however, have neither been followed up with field studies nor been applied to a small office set up such as government offices.

This study supplements the coordination game studies by offering a different approach that applies games literature to a field study more so to small work units like government offices. As earlier mentioned the study uses data I collect from 385 respondents in 20 ministries of the government of Uganda as explained in chapter 1 and chapter 3. Two questionnaires are administered through face to face interviews and self-administered interviews where the respondent asks to fill the questionnaire by him or herself. One questionnaire is used to interview managers and the other to interview officers.

Communication structures, leadership effectiveness and the incentive structures on one hand are represented by variables drawn from previous studies on the subject, while coordination failure on the other hand is represented by activities undertaken in government offices that need coordination for their success as presented in the previous chapter. Such activities include meetings, report writing and effort level put to actual work in a day. The study also uses proxies of performance drawn from literature as coordination failure indicators arising from production failures since performance has been reported to be

unsatisfactory like that in firms experiencing coordination failure. The proxies of performance include the quality of work produced in the department, productivity improvement in the last two years and fair and equitable treatment of staff. The representative activities including meetings, report writing and effort level put to actual work in a day, and the proxies of performance or production failures are used as coordination failure indicators and thus the objects of analysis of coordination failure.

In order to substantiate the relationship between communication, leadership, incentives and coordination failure, I use fixed effect regression, ordered probit and xtoprobit with management tools / coordination mechanisms forming the independent variables while the objects of analysis of coordination failure form the dependent variables. The three management tools are explored using questions formulated to measure the magnitude of each in government offices and how they contribute to a change in the outcome variables / objects of analysis of coordination failure. The outcome variables include time keeping for meetings, participation level in report writing, the effort level put to actual work, the quality of work produced, productivity improvement and to fair and equitable treatment.

Findings offer suggestive evidence that communication and incentives are positively and significantly associated with the objects of analysis of coordination failure. Staff in offices that communicate well and offer incentives are likely to have positive outcomes for the objects of analysis of coordination failure, which in turn may reduce the level of coordination failure in those offices. Because of the high correlation between the

management tools, leadership is not statistically significant with other outcome variables except for the quality of work and productivity improvement.

In addition to the management tools, results suggest that knowledge of the set targets is significantly and positively associated with all the outcome variables except for the effort level put to actual work in a day. Results for the effort level put to actual work in a day are positive but not statistically significant. This suggests that knowing the set targets may help staff to sequence their work and may therefore find no incentive in putting extra hours to work.

Results also suggest that the level of utilization of staff is associated with productivity improvement and fair and equitable treatment of staff, which implies that offices where staff are well utilized are likely to improve their productivity and treat their staff in a fair and equitable manner.

A comparison of which explanatory variables work best for each category of staff reveals that communication is positively associated with time keeping for meetings, participation level in report writing and the effort level put to work by officers. Results show no statistical significance when it comes to improving the same amongst managers. Incentives are also positively and significantly associated with the objects of analysis of coordination failure in both categories of staff though they are not correlated with the effort level managers put to actual work in a day. Leadership effectiveness is positive and significantly correlated with time keeping for meetings and effort level put to work amongst managers but is negative and insignificant amongst officers.

The above results suggest that communication is associated with coordinating officers towards superior outcomes while incentives structures and leadership effectiveness matters more in coordinating managers towards the superior outcome. Results continue to suggest that while government offices should consider communication, leadership and incentive structures in coordinating outcomes to the desired level, leadership ought to ascertain that targets are made clear and known to everyone concerned. In addition to that, the recruited staff should be well utilized.

Findings further suggest that in order for communication to yield better results, focus should be laid to ascertaining feedback, common message interpretation and information sharing. For leadership, the credibility of the manager, his ability to communicate, conformity to the ethical code of conduct and to induce good performance ought to be emphasized. For incentives, results suggest that rewarding high performance, sanctioning poor performers and promoting job related talent ought to be emphasized. All the explored variables are factors that can be handled from within the office without necessarily using additional resources.

The rest of the chapter is structured as follows; Section 5.2 explores communication, leadership and incentives in government offices. Section 5.3 presents the relationship between coordination failure, communication, leadership and incentives in government offices, section 5.4 presents robustness checks while section 5.5 presents concluding remarks.

## **5.2. Communication, Leadership, Incentives and the Objects of Analysis for Coordination Failure in Government Offices.**

Communication, leadership and incentives are explored using variables drawn from literature. Variables explored for communication include clarity of Information, freedom of expression, level of information sharing, level of feedback and common message interpretation. Leadership includes the communication ability of managers, ability to steer direction and to induce good performance. Incentives include rewarding high performance, sanctioning poor performers, promotion based on pay, talent promotion and retention of outstanding officers. Communication, leadership and incentives are regarded as management tools in the study. Categorical questions on a scale of 1 to 5, with 5 being the highest score are asked with regards to how the respondent perceives the magnitude of each indicator in the offices. Results are presented in table 5.1.

Descriptive statistics for communication indicate that information received in government offices is reported to be clear by 77% of the respondents. There is a statistically significant difference in the means of the managers and officers with regards to the status of information sharing. Only 23% of the managers are satisfied with information sharing yet 60% of the officers report satisfaction. It is very likely that officers interact and share information more amongst themselves than they interact with their managers. The level of feedback is good reported by 63% of the respondents and the freedom of expression is also relatively good reported by 58% of the respondents, though the inconsistency on the reported level of freedom of expression between managers and officers is statistically significant. Managers consider freedom of expression to be high, contrary to officers. Freedom of



expression and feedback encourage information sharing needed in offices where work is highly interactive like that reported in government offices. Information sharing ascertains strategic stability hence reducing uncertainties. The clarity of information is high reported by 77% and the majority of the respondents (56%) interpret messages from their supervisors in a similar way. In order to construct the variable communication, the mean scores of the six indicators of communication captured in table 5.1 are aggregated.

For leadership in table 5.1, 33% of the managers are considered to have good communication ability while 41% of the officers are reported to communicate well. 73% of the respondents report that conformity to ethical code is high. 58% of the respondents report that their managers steer direction. For inducing performance, 68% of the managers report having induced good performance whereas only 37% of the officers report that their managers have ever induced performance. The inconsistencies in the reported scores are an indication of a problem since the respondents are all from the same offices. Dewan & Myatt (2008) point out that success is less when there is wide spread discordance. Experience of failure to understand technical issues has been reported by 41% of the respondents and 71% of the respondents consider managers to be credible. Brandts & Cooper (2007) establish that leaders selected through procedures that afford their position with greater legitimacy are more effective at inducing organizational change. This implies that for a leader to be effective, his followers must regard him as credible.

To construct the variable leadership, I aggregate scores of the leadership indicators including a manager's communication ability, ability to steer direction, conformity to the ethical code of conduct, to be considered credible and the ability to induce good performance.

For incentives, results in table 5.1 suggest that there is a statistically significant difference between the manager's and officer's perception in regards to rewarding high performance. 39% of the officers report that the office rewards high performance while 58% of the managers report the same. For sanctioning poor performers officers report a higher percentage than managers. Only 28% of the respondents report promotion to be based on performance. For promotion of job related talent and retention of outstanding performers if they wanted to quit, only 24% report that the office promotes job related talent and would retain an outstanding performer if he or she wanted to quit. The inconsistencies are an indication of a gap in the incentive structure and almost all scores are low.

To construct the variable incentives, I sum up the scores from the incentive indicators including rewarding high performance, sanctioning poor performers, promotion based on pay, talent promotion and retention of outstanding officers. The explored variables are used for analysis in the subsequent sections.

The outcome variables are the objects of analysis of coordination failure that have been explored in the previous chapter. They include time keeping for meetings, participation level in report writing, the effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers.

### **5.3. Relationship between Management Tools and the Objects of Analysis of Coordination Failure.**

In order to examine the relationship between the management tools and the objects of analysis of coordination failure, I use fixed effect regressions the ordered probit and the xtoprobit estimations to regress the objects of analysis for coordination failure as dependent variables on the management tools as independent variables. I include other explanatory variables including knowledge of targets, level of utilization, age, school years, tenure / experience, on the job training, clarity of job description and I also control for ministry fixed effects to cater for unobserved variations in ministries. In all the specifications I cluster the standard errors at departmental level. Results are presented in the subsequent sections.

Table 5.2 presents results from the fixed effect regressions which suggest that communication, incentives and knowledge of targets are positively and significantly associated with the objects of analysis of coordination failure. Results suggest that leadership is positively and significantly associated with the quality of work and productivity improvement. Since government offices are in a coordination game characterized with a high level of complementarity, it is very likely that managers do not keep time and hence officers find no incentive for keeping time. Note that effort to conformity to institutional rules is low reported by 37% of respondents

Results from table 5.2 offer suggestive evidence that communication, leadership and incentives are likely to eliminate inefficiencies and improve performance in government offices which may eliminate coordination failure. Results further offer suggestive evidence

that knowledge of targets and the level of utilization are positively and significantly related with performance in government offices.

We estimate the same model using an ordered probit estimation and present results in table 5.3. Results are consistent with findings in table 5.2. The signs and significance of the coefficients follow a similar trend like that in table 5.2 suggesting that communication, incentives, knowledge of the set targets and the level of utilization are associated with improving efficiency in government offices. Leadership remains positive and significantly correlated with quality of work and productivity improvement.

I continue to estimate the same model using an xtprobit estimation with a panel at the departmental level because there are more than one respondents in the department. I present results in table 5.4. Results are consistent with findings in table 5.2 and 5.3. The signs and significance of the coefficients follow a similar trend suggesting that communication, incentives, knowledge of the set targets and the level of utilization are positively and significantly associated with efficiency in government offices. Leadership remains positive and significantly correlated with the quality of work and productivity improvement.

I use the fixed effect regression to further explore which explanatory variables are highly correlated with the outcome variables under each category of staff (officers and managers), and present results in table 5.5. For communication, results suggest a positively and statistically significant relationship with the outcome variables under the officer category, while the results under the manager category turn out to be insignificant. These results could

be influenced by the difference in sample size between officers and managers. Leadership turns out to be positively correlated under the manager category while incentives are positive and statistically significant in both categories of staff. This implies that offices with good communication may not need extra effort from a leader. Knowledge of targets is positively and significantly associated with time keeping for meetings and participation in report writing under officers. It is also positively and significantly associated with improving the participation level in report writing under managers.

I continue to decompose the management tools to establish which particular indicators are closely related to the outcome variables. I present results in table 5.6 for a decomposition of communication, table 5.7 for a decomposition of leadership and table 5.8 for decomposition of incentives.

In table 5.6, I utilize the ordered probit estimation and results suggest that information sharing, feedback and freedom of expression are closely associated with the objects of analysis of coordination failure. This implies that offices where staff get feedback, share information and are free to express themselves are likely to be better coordinated. Literature suggests simultaneous interaction through meetings as the best means of enhancing feedback and information sharing. Descriptive evidence in appendix 4 suggests that the most approach used for information sharing is meetings reported by 34%, followed by social media by 24%, routing files by 18%, personal interaction by 8% and notice boards reported by 7%. Talking to encourage is likely to induce more performance than writing to encourage performance.

Decomposing leadership variables in table 5.7 presents results that suggest that offices where leaders conform to the ethical code of conduct are likely to have higher effort put to actual work, to improve productivity and to accord fair and equitable treatment to officers. A manager's credibility and communication ability are closely associated with productivity improvement while inducing good performance is closely associated with the quality of work produced. From appendix 4, the approaches used for inducing performance include mentoring, inclusiveness, attachment to better performing officers, training and referring persistent poor performers to higher authorities.

Decomposing incentive variables in table 5.8 presents results that suggest that rewarding high performance is closely associated with the effort officers put to actual work in a day while sanctioning poor performers is positively and significantly associated with participation level in report writing, the effort level officers put to actual work in a day and to the fair and equitable treatment of staff. Promotion based on performance is closely associated with the level of time keeping in for meetings while promotion of job related talent is positively and significantly related with the quality of work, productivity improvement and fair equitable treatment of staff. Retention of an outstanding officer if he or she wanted to resign from the government office has no significant relationship with any of the outcome variables.

From table 5.8, we can conclude that offices which reward high performance, sanction poor performers, promote staff based on performance and promote job related talent as incentives are likely to eliminate coordination failure. Descriptive evidence in table 5.9

suggests that those with clear job descriptions report to have higher incentives as compared to those with unclear job descriptions. More still, those who report working in open door offices report a higher incentive of 8% as compared to 4% reported by those in closed door offices. Descriptive results in appendix 4 report that remuneration is reported to be good by 22% of the respondents. Despite the low remuneration, 26% of the respondents report to be motivated to work by the job security attached to the government job, 25% are driven by the personal drive to achieve, 17% by the exposure and networks established in government offices, 15% report the desire to serve the public and 14% report to be driven by the flexible working environment in government offices. The types of incentives reported to induce performance include recognition reported by 51%, monetary incentives reported by 52%, inclusiveness by 14%, good facilitation by 13% and penalties by 10%.

Relating the key explanatory variables with office characteristics offers descriptive results in table 5.9 that suggest that staff with clear job descriptions are likely to report good communication, better leadership, better incentives and to know their set targets. More still, offices with an open door office lay out are likely to communicate better, to get better incentives and to know their targets better.

#### **5.4. Robustness Check**

This section investigates the robustness of the results in the previous sections of chapter five. We run the same specifications using a linear probability model with dependent variables as dummies with a value of 1 if the score from a response is 4 and 5, and 0 otherwise. Results are presented in table 5.10. The results obtained in table 5.10 follow a similar pattern in terms

of signs and significance as those obtained from the fixed effect regression model in table 5.2, the ordered probit model in table 5.3 and the xtoprobit model in table 5.4. Communication, incentives and knowledge of targets are positive and significant as in table 5.2, 5.3 and 5.4. The coefficients for leadership also follow a similar trend.

I continue to do a robustness check using a derivative probit model with similar outcome variables and explanatory variables as in the fixed effect regression in table 5.2 and present results in table 5.11. Results offer suggestive evidence that communication, incentives, knowledge of targets and the outcome variables are positively and significantly related. Leadership gains significance in the derivative probit model in table 5.11. The presented results are similar to those in the fixed effect regression model in table 5.2 and the ordered probit model in table 5.3.

Consistent with our predictions, results suggest that communication, leadership, incentives and knowledge of set targets are positively and significantly associated with the objects of analysis of coordination failure. It may be that this relationship is close because of the negative perceptions of peculiar characters who always want to see a change. To them, improving time keeping and the rest of the outcome variables would naturally call for improving communication, leadership effectiveness and an increase in the incentives offered in government offices. However eliminating the negative characters also offered results with a similar pattern in the linear probability model presented in table 5.10.

I continue to explore the correlation with each dimension separately while controlling for individual and office characteristics and the unobserved effects across ministries. Results



are presented in table 5.12. The level of coordination is the outcome variable computed by aggregating the six objects of analysis of coordination failure including time keeping for meetings, participation level in report writing, the effort level officers put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of staff. Results in table 5.12 suggest that the relationship between communication, leadership, incentives and the knowledge of targets are individually positive and significantly correlated with the level of coordination in column (1), (2), (3) and (4). Column (5) simultaneously controls for the four key explanatory variables and establishes that communication, incentives and knowledge of targets remain positive and individually significantly correlated with the level of coordination. Leadership remains positive but not significant.

Results from the robustness checks thus suggest that superior outcomes are likely to be achieved in government offices with coordination mechanisms such as communication, leadership, incentives and knowledge of the set targets. Results suggest that offices with staff that are knowledgeable of the set targets, with good communication coupled with availability of incentives, are likely to require a minimal leadership role. In addition, offices where staff know their set targets, where communication is good, where incentives are offered and where leadership is effective are very likely to be well coordinated.

I continue to present a table computing the level of management by ministry and present results in table 5.13. Results show that ministries with a higher management level

also have a higher coordination level. This suggests a close relationship between the two variables.

## **5.5. Concluding Remarks**

This chapter has explored the relationship between coordination failure and communication, leadership and incentives in government offices using data from a survey carried out in 20 ministries of the government of Uganda. Results offer suggestive evidence that communication, leadership and incentives have a statistically positive and significant relationship with coordination failure. This chapter has also provided suggestive evidence that knowledge of targets a factor that game theorists tend to pay no attention to, is closely associated with coordinating outcomes to superior levels.

The chapter presents five sets of results. First, like in firms, communication, leadership and incentives are closely associated with the objects of analysis of coordination failure. Findings offer suggestive evidence that communication and incentives are significantly and positively associated with all the outcome variables including time keeping for meetings, participation in report writing, the effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers. Because of the high correlation between the management tools, leadership is only positive and significant with the quality of work produced and productivity improvement. While the three management tools matter results suggest that the relationship is stronger with communication.

Second, in addition to management tools as coordination mechanisms, results suggest that knowledge of the set targets is significantly and positively associated with all the outcome variables except the effort level put to actual work in a day. Offices where staff

know their set targets are likely to keep time for meetings, to participate in report writing, to produce quality work, to have improved productivity and to treat staff in a fair and equitable manner.

Third, results also suggest that the level of utilization of staff has a significant and positive relationship with coordinating some outcomes to a superior level. Offices that have staff that feel well utilized are very likely to keep time for meetings, to participate in report writing, to put a high effort to actual work, to produce better quality work, to improve productivity and to treat staff in a fair and equitable way.

Fourth, a comparison of which explanatory variables work best for each category of staff offer suggestive evidence that communication is positively and significantly associated with time keeping for meetings, participation level in report writing and the effort level put to actual work by the officers but has no statistical significance when it comes to managers. Incentives are positive and significant in both categories of staff. The above results suggest that communication is likely to matter more in coordinating officers towards the superior outcome while incentive structures and leadership effectiveness are likely to matter more in coordinating managers.

Fifth, findings further suggest that for communication to have a positive and significant relation with the outcome variables, focus should be laid to ascertaining feedback, information sharing and similar message interpretation. For leadership, the credibility of the manager, his ability to communicate, to induce good performance and to conform to the ethical code of conduct ought to be emphasized. For incentives, attention ought to be laid to

rewarding high performance, sanctioning poor performers and promoting job related talent. All the explored variables are factors that can be handled from within the office without necessarily using additional resources. Despite the close relationship between communication, leadership and incentives and coordination failure, 30% of the respondents report communication in government offices to be good, while 4% and 6% report leadership and incentives to be good respectively.

Government offices ought to consider strengthening communication, leadership and incentive structures in order to coordinate outcomes to the desired level. In addition to that, results suggest that offices where targets are known to everyone concerned are likely to attain superior outcomes. Descriptive evidence also suggests that those who report to have clear job descriptions and open door offices also report to have better communication, better incentives and know their targets better. In addition to that, results suggest that offices that utilize staff well are likely to have superior results.

Findings from the study should be interpreted with caution as they may not necessarily imply causality. The study relies on subjective measures and uses proxies for communication, leadership and incentives. This explains why the study offers suggestive evidence as opposed to concrete evidence. Future research should consider carrying out real experiments or other objective ways to validate findings from this study.

## **CHAPTER 6**

### **Conclusion and Policy Implications**

Searching for solutions to improved public sector performance continues to manifest in many development players' agenda and in government development plans. Despite the concerted efforts to seeking solutions to public sector performance, many governments' performance is considered unsatisfactory and government offices still face a number of inefficient practices. Demands from citizens exclaiming for better services from public offices still manifest. This study postulates that government offices are in a coordination game situation with coordination failure being common as in firms and assembly lines. Several studies have used laboratory experimental games to establish that coordination failure is a common occurrence that leads to unsatisfactory results in the context of firms and assembly lines. However such studies have neither been followed up with field studies nor been done in small work places like in government offices where a small number of educated people regularly work together.

This study hence explores coordination failure and its correlates in government offices. The study uses data I collect from 20 Ministries of the government of Uganda through personal interviews with 385 government officials randomly selected from 100 departments. Of the 385 respondents, 297 are officers and 88 are managers. The survey was conducted from 10th August 2016 to 30<sup>th</sup> September 2016. Findings from the study include eight sets of results.

First, findings suggest that mature, experienced and educated people can persistently face inefficient practices despite the codified blue print that guides their operations. The majority of the respondents have experienced inefficient practices with poor time keeping reported to be the most inefficient practice. Effort to ascertain conformity to institutional rules is reported to be low and this could be explaining why the majority of the civil servants will not forego their private business transactions to attend to office work during office time.

Secondly, the level of complementarity or interdependence in the process of doing work in government offices is reported to be high to the extent that the majority of staff make decisions considering how they expect their colleagues to act. The majority have experienced the influence of positive and negative behavior from colleagues. Results suggest that the outcome of a government officials' decisions is likely to depend on the choices made by the people they are interacting with as in a coordination game. A government officer expresses willingness to keep time if he expects others to keep time; is willing to put maximum effort to work if he or she expects others to put maximum effort and is likely to find it better to shirk if colleagues shirk and so on. Such a tendency is a demonstration of coordination games with multiple equilibria that is likely to make the need for coordination high in government offices if the desired outcomes or superior outcomes are to be achieved. This implies that the effort levels government officers put to work are likely to complement each other as in a coordination game. Because of uncertainty of the likely play of the opponent in a coordination game situation, players choose an outcome they consider optimal / self-rewarding which in most cases is a minmax outcome and an inferior one that avoids risks

attached to the superior outcome like waiting or fruitless effort. This makes government offices stuck with lower outcomes instead of the desired superior outcomes, hence coordination failure.

Third, the inefficient practices in government offices can be described as coordination failure. Coordination failure is the persistent attainment of lower outcomes or inferior outcomes when superior outcomes can be attained with coordination. Camerer and Weber (2013) establish that the persistent existence of inefficient practices in an organization is a clear manifestation of coordination failure. Descriptive evidence from the study suggest that the inefficient practices in government offices are persistent. Though inferior outcomes are more often observed, results reveal that superior outcomes can be observed with coordination. Applying Pre – play communication as a coordination mechanism reveals that the level of participation in report writing is likely to increase when reminders are circulated and is likely to decline without reminders. The level of time keeping is likely to increase when officers are certain that the manager keeps time.

Fourth, coordination failure in government offices is closely associated with communication, leadership, incentives and the knowledge of targets. Findings offer suggestive evidence that there is a significant and positive relationship between communication, incentives and all the outcome variables including time keeping for meetings, participation in report writing, the effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers. An improvement in communication and incentives is likely to increase the level of each outcome



variable which in turn may reduce the level of coordination failure in the office. Because of the high correlation between the management tools, leadership is positive and statistically significant with only the quality of work produced and productivity improvement. Thus strengthening communication, leadership effectiveness and incentives is likely to reduce coordination failure in government offices. While the three management tools matter, results suggest that more attention ought to be drawn to strengthening communication.

Fifth, in addition to management tools, results suggest that knowledge of the set targets is positively and significantly associated with all the outcome variables except the effort level put to actual work in a day. Offices where staff have and know their set targets are likely to be better coordinated. This implies that in addition to strengthening management tools, leadership ought to ascertain that officers are aware of the set departmental targets. Literature suggests that knowing the set targets increases the desire to achieve them.

Sixth, results also suggest that the level of utilization of staff has a significant and positive relationship with the quality of work produced, with productivity improvement and fair and equitable treatment of officers. Despite that, 35% of the respondents report to have experienced a feeling of underutilization. The reasons given for feeling underutilized include unchallenging work, inadequate facilitation and little work. This implies that leadership in government offices ought to ensure that officers are well utilized by giving them challenging work, and involving them in routine activities undertaken in the office.

Seventh, a comparison of which explanatory variables work best for each category of staff offers suggestive evidence that communication is likely to improve time keeping for

meetings, participation level in report writing and the effort level put to work of the officers but has no statistical significance when it comes to improving the same amongst managers. Incentives are likely to make an improvement in the outcome variables in both categories of staff while leadership effectiveness is positive and significant under the category of managers. The above results suggest that communication is likely to matter more in coordinating officers towards the superior outcome while incentive structures and leadership effectiveness are likely to matter more in coordinating managers. Open door offices and offices where staff have clear job descriptions are likely to communicate better and to offer better incentives.

Eighth, findings further suggest that in order for communication to lead to better results in the outcome variables, focus ought to be laid to ascertaining feedback, information sharing and freedom of expression. Descriptive results suggest that information sharing is through meetings, social media, personal interactions, routing files and notice boards. For improving leadership, the credibility of the manager, his ability to communicate, to induce good performance and to conform to the ethical code of conduct are likely to lead to better outcome variables and ought to be emphasized. Descriptive results suggest that inducing good performance can be done through mentorship, recognition, training, inclusiveness and penalties. For incentives to lead to better outcome variables, attention ought to be laid to rewarding high performance, sanctioning poor performers, promotion based on performance and promoting job related talent. Descriptive results suggest that incentives that are likely to lead to better results include recognition, monetary incentives, inclusiveness, good facilitation and penalties. All the explored variables are factors that can be handled from within the office without necessarily using additional resources.

Several policy implications can be drawn from the findings of this dissertation. First, since government offices are in a coordination game situation where officers are likely to perform better if they expect their colleagues to perform better, then mechanisms to focus staff's beliefs towards better performance ought to be enhanced. Such mechanisms include strengthening communication, leadership effectiveness and incentive structures. These should aim at reducing uncertainties and making tasks, payoffs and outcomes as clearer as possible.

Communication in the workplace can be improved through introduction of an open door policy, emphasizing regular meetings, maintaining regular briefs that can be easily accessed and involving all staff members in the communication loop. Horizontal communication characterized by two way communication (simultaneous interaction and feedback) has been established to lead to better results. This in line with (Detert & Burris, 2007 : p.869) who maintain that in today's hypercompetitive business environment, employee comments and suggestions intended to improve organizational functioning are critical to performance because, it is "just not possible any longer to 'figure it out' from the top".

Leadership effectiveness can be strengthened through encouraging leaders to lead by example since findings suggest that work in government offices is highly complementary. Offices with leaders that keep time are likely to have officers that keep time; offices where managers get involved in report writing are likely to have a higher participation level in report writing and offices where managers conform to the ethical code of conduct are likely to have

officers that conform. Leaders that inspire and ask for better performance from their followers tend to get desired results as compared to those who never mention it. Dellve, Skagert & Vilhelmsson (2007, p.474) established that leaders who use rewards, recognition and respect tend to have a higher prevalence of work attendance and follow up. Detert & Burris (2007, p.870) highlight a number of leader behaviors or attributes including approachability, action taking, and accessibility that lead subordinates to conclude it is either safe or unsafe to speak up. Such attributes encourage freedom of expression, a communication attribute that is likely to lead to superior results in the outcome variables.

Since remuneration in the public sector is reported to be low (22%), initiatives that drive staff to perform ought to be improvised. Descriptive results suggest that the types of incentives reported to induce performance include recognition, monetary incentives, inclusiveness, good facilitation and penalties. This is in line with Willis-Shattuck, Bidwell, Thomas, Wyness, Blaauw, & Ditlopo (2008, p. 3) who established that recognition is highly influential in worker motivation and that adequate resources and appropriate infrastructure can improve morale significantly. They cite other incentives to include financial (in terms of salary or allowances), career development (in regards to the possibility to specialize or be promoted), continuing education (having the opportunity to take classes and attend seminars), 'work environment' (the physical condition of the work place), resource availability (refers to tools and supplies that are necessary for staff to perform their job), social connections (refers to having a positive working relationship between management and subordinates) and personal recognition or appreciation (either from managers, colleagues or other stake holders), fringe benefits (e.g. housing, medical and transport allowances), job security,

personal safety and social factors, such as effect on family life (Willis-Shattuck et al. 2008, p.3). Government offices ought to consider designing schemes that consider some of the highlighted incentives.

Secondly, inefficient practices and performance in government offices can be improved without necessarily adding resources but rather with changing the mindsets and beliefs of the staff. This can be attained through continuous refresher training at least annually for each cohort of staff and adoption of management tools such as *Kaizen* in government offices. Utilizing staff well, giving them clear instructions and ascertaining that the set targets are known to all involved is likely to significantly improve outcomes variables.

The study recommends refresher trainings, mindset change and focusing of beliefs towards the desired outcomes. The outcome should be clear and the task each officer is to do in the achievement of the outcome should be clarified. Simultaneous interactions through meetings and direct means of communication should be emphasized in government offices. Management tools such as *Kaizen* have been proved to gradually improve productivity through mindset change without necessarily adding resources.

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## TABLES

**Table 2. 1. Trend of government performance for FY 2012/13 – 2014/15**

	(1) 2012/13	(2) 2013/14	(3) 1014/15
Number of Indicators	178	204	167
% scores of the outcome indicators			
Average positive trend	42	47	53
Average negative trend	46	24	20
Unchanged trend	17	21	29
Not assessed due to insufficient data	11	8	3
Outcome indicators hit their annual targets(average)	46	47	54

Source: Government Annual Performance Report (GAPR) – Financial Year 2014/15

Notes:

1. The calculation of achievement levels is based on the division of the actual achievement over the target level multiplied by 100. Targets set for each year reflect a trend in the desired increase or decrease against the level achieved in the previous year.
2. The measurement of the target achieved in a given year is the percentage change that has occurred, not the actual change assuming a zero baseline. For example, column (3) presents performance for the financial year 2014/15. Overall a total of 167 outcome indicators were identified for assessment in the financial year 2014/15. On average 53% showed a positive trend meaning that 53% of the sectors improved from the previous year's performance score, 20% a negative trend, 17% remained unchanged and 7% were not assessed due to insufficient data.
3. An assessment of the same indicators against their annual targets revealed that on average 54% of the outcome indicators hit their annual target.

**Table 3. 1. Successfully interviewed respondents per ministry**

Ministry Code	Ministry	Number of departments	Number of departments selected for the survey	Number of managers successfully interviewed	Number of officers successfully interviewed
1.	Agriculture	15	8	7	21
2.	Defense	5	3	3	6
3.	East African Community	4	2	2	5
4.	Education	11	6	5	15
5.	Energy	11	6	5	18
6.	Finance	15	8	7	25
7.	Foreign Affairs	10	6	6	18
8.	Gender	10	6	6	13
9.	Health	8	5	3	23
10.	ICT	6	3	1	9
11.	Internal Affairs	9	5	5	15
12.	Justice	9	5	4	12
13.	Lands	11	6	9	34
14.	Local Government	6	3	3	9
15.	Public Service	8	5	1	13
16.	Tourism	4	2	4	12
17.	Trade	7	4	3	1
18.	Water& Environment	12	7	6	18
19.	Works and Transport	8	5	4	15
20	Office of the Prime Minister	9	5	4	15
<b>Total</b>		<b>178</b>	<b>100</b>	<b>88</b>	<b>297</b>

**Table 4. 1. Inefficient practices in government offices**

Characteristics	Combined Mean	Officers (1)	Managers (2)	Difference (1) – (2)	t-stats
Experience of inefficient practices	0.735	0.700 (0.459)	0.852 (0.357)	-0.152***	-2.859
Poor time keeping	0.584	0.569 (0.496)	0.636 (0.483)	-0.067	-1.125
No incentive for hard work	0.501	0.508 (0.501)	0.477 (0.502)	0.031	0.512
Poor filing	0.506	0.478 (0.500)	0.602 (0.492)	-0.124**	-2.052
Political interference	0.465	0.454 (0.499)	0.500 (0.503)	-0.045	-0.749
Poor sequencing of work	0.457	0.468 (0.499)	0.420 (0.496)	0.048	0.785
Poor communication	0.538	0.525 (0.500)	0.579 (0.496)	-0.054	-0.896
Poor leadership	0.473	0.488 (0.501)	0.420 (0.496)	0.068	1.117
Poor delegation	0.018	0.020 (0.141)	0.011 (0.107)	0.008	0.544
<b>Frequency of Departmental Meetings</b>					
Daily meetings	0.059	0.020 (0.141)	0.193 (0.397)	-0.173***	-6.301
Weekly meetings	0.272	0.333 (0.472)	0.068 (0.254)	0.265***	5.053
Monthly meetings	0.389	0.421 (0.495)	0.284 (0.454)	0.137**	2.321
Quarterly meetings	0.265	0.209 (0.407)	0.455 (0.501)	-0.246***	-4.708
No. of observations (385)		297	88		

Notes:

1. Standard deviation in parentheses
2. The variables take on the value 1 if yes, and otherwise 0.
3. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 2. Individual characteristics**

Characteristics	Combined Mean	Officers* (1)	Managers (2)	Difference (1)-(2)	t-stats
Age	42.103	40.011 (8.117)	48.647 (7.759)	-8.636***	-8.629
Female	0.294	0.313 (0.465)	0.227 (0.421)	0.086	1.554
Officer (entry level)	0.244	0.316 (0.466)	0.000 (0.000)	0.319***	6.417
Years of formal schooling	18.577	18.372 (2.114)	19.261 (2.109)	-0.889***	-3.463
Highest level is masters'	0.605	0.535 (0.368)	0.841 (0.499)	-0.306***	-5.324
Education major is social sciences	0.392	0.441 (0.497)	0.227 (0.421)	0.214***	3.661
Experience	7.152	6.498 (5.420)	9.434 (8.259)	-2.936***	-3.662
Number of observations (385)		297	88		

Notes:

1. Standard deviation in parentheses
2. Hierarchy - The public service hierarchy is from the rank of officer, followed by Senior Officer, then Principle Officer, Assistant Commissioner and Commissioner.
3. Officers\* include government officials that do not head departments while managers are the heads of departments.
4. The department is the office from which respondents are drawn.
5. The variables take on the value 1 for yes (the highest score), and otherwise 0.
6. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 3. Perception of respondents about job characteristics**

Office and Job Characteristics	Combined Mean	Officers (1)	Managers (2)	Difference (1)-(2)	t-stats
No. of on job training in the last 5 years	3.334	3.147 (2.629)	4.027 (3.369)	-0.879**	-2.412
Clear job description	0.719	0.697 (0.460)	0.795 (0.406)	-0.098*	-1.809
Works in line with job description	0.673	0.653 (0.477)	0.739 (0.442)	-0.085	-1.501
Closed door office lay out*	0.413	0.428 (0.496)	0.364 (0.484)	0.064	1.069
Feeling of under utilization	0.351	0.378 (0.485)	0.261 (0.442)	0.116**	2.004
Knowledge of the set targets	0.728	0.691 (0.463)	0.851 (0.259)	-1.159***	-2.951
Desire to achieve the set targets	0.662	0.637 (0.482)	0.747 (0.437)	-0.110*	-1.912
Colleagues foregoing a private cash business transaction to attend to office work during office time.	0.459	0.455 (0.499)	0.477 (0.502)	-0.023	-0.375
Number of observations (385)		297	88		

Notes:

1. Standard deviation in parentheses
2. \*Offices in the public sector of Uganda have a closed door office plan. Closed door office means that the door of the office is always shut.
3. Responses range from 1 to 5, with 5 being the highest score. The variables in the table take on the value 1 if yes (scores of 4 and 5), and otherwise 0.
4. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.



**Table 4. 4. Relationship between job description and other job characteristics**

Job Characteristics	Combined Mean	Job description category		Difference (1) –(2)	t- stat
		Not so clear (1)	Clear (2)		
Feel Underutilization	0.351	0.490 (0.502)	0.296 (0.458)	0.195***	3.649
Work in line with the schedule of duties	0.673	0.444 (0.499)	0.762 (0.427)	-0.317***	-6.240
Knowledge of the set targets	0.728	0.580 (0.496)	0.783 (0.413)	-0.203***	-3.977
Foregoing a private business to attend to work during office time	0.459	0.481 (0.502)	0.451 (0.499)	0.030	0.533
Number of observations (385)		107	278		

Notes:

1. Standard deviation in parentheses.
2. Job description specifies the tasks of a specific job. Coordination involves linking together different parts of an organization in order to accomplish a collective set of tasks, it is therefore very important that the task each part has to play is made clear. Here we look at the difference between the perception of those with clear and unclear job descriptions.
3. The variables take on the value 1 if yes, and otherwise 0.
4. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 5. Coordination games, coordination failure and performance variables**

Variable	Combined Mean	Officer (1)	Managers (2)	Difference (1) –(2)	t- stats
<b>Coordination Games indicators</b>					
Level of interaction	0.792	0.795 (0.405)	0.784 (0.414)	0.011	0.213
Consideration of others when making decisions concerning work	0.647	0.596 (0.492)	0.818 (0.388)	-0.222***	-3.896
Colleagues work related actions affecting respondent’s performance	0.702	0.711 (0.455)	0.682 (0.468)	0.028	0.470
Clarity of benefits associated with achieving the set targets	0.677	0.652 (0.477)	0.756 (0.432)	-0.103*	-1.796
<b>Coordination failure indicators</b>					
Effort to conformity to institutional rules	0.485	0.402 (0.491)	0.699 (0.462)	-0.297***	-4.751
Effort level put to actual work in a day	0.782	0.771 (0.421)	0.818 (0.388)	-0.047	-0.939
Time keeping level for meetings	0.623	0.586 (0.493)	0.750 (0.435)	-0.164***	-2.813
Participation level in report writing	0.514	0.495 (0.501)	0.579 (0.496)	-0.085	-1.395
Experienced inefficient practices	0.735	0.700 (0.459)	0.852 (0.357)	-0.152***	-2.859
<b>Performance Indicators</b>					
Quality of work	0.810	0.815 (0.389)	0.795 (0.405)	0.019	0.406
Productivity improvement	0.623	0.612 (0.488)	0.659 (0.477)	-0.047	-0.789
Fair and equitable treatment	0.675	0.657 (0.476)	0.739 (0.441)	-0.082	-1.444
Number of observations (385)		297	88		

Notes: 1. Standard deviation in parentheses

2. Responses range from 1 to 5, with 5 being the highest score. All variables in the table are dummies taking value 1 for yes (scores of 4 and 5), and 0 otherwise.

3. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 6. Performance categorization**

Level of Performance	Freq.	Percent	Cum.
Low	6	1.56	1.56
Moderate	178	46.23	47.79
High	201	52.21	100
Total	385	100	

Notes:

1. Since each of the three variables used as proxies for performance has a scale of five, the total sum generated from the three variables is 15. The categorization of low, moderate and high is generated with 80% being considered high, 50% moderate and below 50% low. 15 is equivalent to 100%, then 80% translates to 12  $\rightarrow (15*80)/100$ , implying a high score ranges from (12-15), moderate (7-11), and low (0-6).

**Table 4. 7. Time keeping under conditions of certainty and uncertainty**

Time keeping levels	Combined Mean	Officers (1)	Managers (2)	Difference (1)-(2)	t-stats
Expected level of time keeping	0.634	0.597 (0.504)	0.760 (0.446)	-0.163***	-2.824
Actual level of time keeping	0.623	0.586 (0.493)	0.750 (0.435)	-0.164***	-2.813
Majority keep time when manager is late	0.452	0.431 (0.496)	0.523 (0.502)	-0.092	-1.519
Majority keep time if certain that manager keeps time	0.836	0.832 (0.375)	0.852 (0.357)	-0.021	-0.458
Majority keep time if uncertain that colleagues would keep time	0.166	0.141 (0.349)	0.250 (0.435)	-0.109**	-2.415
Late coming influenced by colleagues' poor time keeping behavior	0.626	0.626 (0.485)	0.625 (0.487)	0.001	0.021
No. of observations (385)		297	88		

Notes:

1. Standard deviation in parentheses
2. Time keeping refers to the punctuality or lateness of a staff for an official departmental meeting.
3. Responses range from 1 to 5, with 5 being the highest score. All variables take on the value 1 if yes (scores of 4 and 5), and 0 otherwise.
4. Certainty is when the respondent is sure that the manager will keep time or be late for a specified departmental meeting while **uncertainty** is the time keeping level of the respondent if he or she is not sure whether colleagues would keep time for a specified meeting.
5. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 8. Relationship between time keeping level and other office characteristics**

Characteristics	Combined Mean	Time keeping level		Difference (1) –(2)	t-stats
		Low	High		
Conformity to institutional rules	0.485	0.407 (0.494)	0.529 (0.500)	-0.122**	-2.026
Closed office	0.413	0.448 (0.499)	0.392 (0.489)	0.413	1.092
Clear job description	0.719	0.655 (0.477)	0.758 (0.428)	-0.103**	-2.191
Feeling of utilization	0.351	0.400 (0.492)	0.321 (0.468)	0.079	1.578
Number of observations (385)		145	240		

Notes:

1. Standard deviation in parentheses.
2. The variables take on the value 1 if yes, and otherwise 0.
3. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 4. 9. Level of participation in report writing with coordination**

Participation levels	Combined Mean	Officer (1)	Manager (2)	Difference (1) –(2)	t-stats
Quarterly reports	0.571	0.556 (0.498)	0.625 (0.487)	-0.069	-1.155
Expected level of participation	0.748	0.767 (0.423)	0.682 (0.468)	0.086	1.631
Actual level of Participation	0.514	0.495 (0.501)	0.579 (0.496)	-0.085	-1.395
Participation with reminders	0.818	0.811 (0.392)	0.841 (0.368)	-0.029	-0.628
Participation without reminders	0.397	0.397 (0.490)	0.398 (0.492)	-0.000	-0.007
Participation with feedback	0.701	0.687 (0.465)	0.750 (0.435)	-0.063	-1.135
Participation with Manager's involvement		0.875 (0.331)			
Participation level with template	0.886	0.926 (0.262)	0.750 (0.435)	0.176***	4.672
No. of observations	385	296	88		

**Notes**

1. Standard deviation in parenthesis
2. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.
3. Coordination mechanisms include pre-play communication defined as reminders, feedback, manager’s involvement and provision of a template.

**Table 4. 10. Level of coordination by ministry**

Ministry	Time Keeping level for meetings (a)	Participation level in report writing (b)	Effort put to actual work in a day (c)	Quality of work (d)	Productivity improvement (e)	Fair & equitable treatment (f)	Coordination level (a+b+c+d+e+f) (g)	Level of coordination failure (h)
Perfect Score	5.00	5.00	5.00	5.00	5.00	5.00	30.00	
Good score	3.75	3.75	3.75	3.75	3.75	3.75	22.50	-
Defense	4.22	4.22	4.00	4.11	4.22	3.89	24.67	-2.17
Education	4.00	3.65	4.35	4.40	4.05	4.30	24.35	-1.85
Finance	3.66	3.97	4.22	4.22	3.90	3.96	23.99	-1.49
Foreign Affairs	4.10	3.96	3.87	4.00	3.44	4.04	23.93	-1.43
Public Service	4.00	3.71	4.36	4.21	3.67	3.77	23.77	-1.27
Trade	3.00	3.75	4.00	4.00	4.00	4.50	23.00	-0.50
Internal Affairs	3.54	3.60	4.05	4.10	3.95	3.95	22.85	-0.35
Local Government	4.08	3.42	3.67	4.08	3.83	3.83	22.50	0.00
Agriculture	3.36	3.64	3.89	4.04	3.57	3.75	22.32	0.18
Justice	3.69	3.13	4.13	4.31	3.79	3.81	22.19	0.31
Water	3.71	3.21	3.58	3.92	3.83	4.08	21.71	0.79
Tourism	3.19	3.50	3.81	4.25	3.92	3.44	21.69	0.81
Works	3.05	3.53	3.89	4.00	3.37	3.63	21.63	0.87
OPM	3.26	3.37	3.74	3.89	3.79	3.74	21.37	1.13
East African Community	3.29	3.43	3.57	3.71	3.52	3.71	21.14	1.36
Energy	3.50	3.15	3.78	3.74	3.70	3.61	20.93	1.57
Health	2.81	3.42	3.73	3.85	3.54	3.62	20.84	1.66
Lands	3.05	3.28	3.77	3.74	3.67	3.63	20.74	1.76
Gender	2.63	3.24	3.42	3.95	3.00	3.47	19.95	2.55
ICT	2.80	3.60	2.90	3.90	2.70	3.00	19.80	2.70
Total	3.43	3.51	3.86	4.01	3.67	3.78	22.10	0.33

## Notes

1. Columns (a), (b), (c), (d), (e) and (f) represent coordination failure indicators and form the objects of analysis for coordination failure in the offices.
2. Respondents are asked for the perceived level of time keeping for departmental meetings, for the effort level their colleagues put to actual work in a day, they are asked for the perceived participation level in report writing, for how they perceive the quality of work produced in the department, they are asked for their view of productivity improvement and their perception of fair and equitable treatment of officers in the department. The questions are on a scale ranging from 1 to 5, with 1 being very low and 5 very high.
3. The scores in column (a), (b), (c) (d), (e) and (f) are mean scores for the coordination failure indicators being measured.
4. Column (g) is the summation of (a), (b), (c) (d), (e) and (f) and the coordination level of a ministry. The perfect score expected is 30 since there are 6 variables with responses having a high score of 5. The good score used is the 75<sup>th</sup> percentile which is equivalent to 22.5.
5. Column (h) is the difference between the good score and the coordination level attained by each ministry. A score below the good score is an inferior one hence an exhibit of coordination failure.



**Table 5. 1. Communication, leadership and incentives indicators**

Variables	Combined Mean	Officer (1)	Manager (2)	Difference (1)-(2)	t-stats
<b>Communication Indicators</b>					
Clear of information	0.771	0.791 (0.407)	0.705 (0.459)	0.087*	1.703
Level of interaction	0.792	0.795 (0.405)	0.784 (0.414)	0.011	0.213
Freedom of expression	0.579	0.492 (0.501)	0.875 (0.333)	-0.383***	6.752
Information sharing	0.517	0.603 (0.490)	0.227 (0.421)	0.375***	6.506
Feedback	0.634	0.623 (0.485)	0.670 (0.473)	-0.048	-0.812
Similar message interpretation	0.604	0.574 (0.495)	0.707 (0.458)	-0.133**	-2.177
<b>Leadership Indicators</b>					
Communication ability	0.392	0.411 (0.493)	0.329 (0.473)	0.081	1.371
Conformity to ethical code	0.743	0.727 (0.446)	0.795 (0.406)	-0.068	-1.279
Steers direction	0.584	0.562 (0.497)	0.659 (0.477)	-0.097	-1.619
Induces good performance	0.442	0.370 (0.484)	0.682 (0.468)	-0.311***	-5.343
Level of failure to understand instructions	0.025	0.030 (0.172)	0.011 (0.107)	0.019	0.979
Credibility	0.712	0.673 (0.469)	0.841 (0.368)	-0.168***	-3.076
<b>Incentives Indicators</b>					
Rewards high performance well	0.434	0.390 (0.489)	0.579 (0.496)	-0.189***	-3.175
Sanctions poor performers	0.519	0.545 (0.499)	0.432 (0.498)	0.114*	1.878
Promotion based on performance	0.278	0.279 (0.449)	0.273 (0.448)	0.007	0.124
Retains outstanding performers	0.239	0.273 (0.446)	0.125 (0.333)	0.148***	2.877
Promotion of job related talent	0.242	0.199 (0.399)	0.386 (0.489)	-0.188***	-3.667
No. of observations (385)		297	88		

Notes:

1. Standard deviation in parenthesis
2. The indicators / variables used are drawn from previous studies (Brandts et al. (2006 and 2007); Cooper et al. (1990, 1992, and 1993); Devetag & Ortmann (2007), Dong et al. (2015) ; Van Huyck et al. (1990 and 2007)
3. All variables in the table take on the value 1 if yes (scores of 4 and 5), and 0 otherwise.
4. \*\*\*, \*\* and \* indicate significant mean difference between officers and managers at the 1, 5, and 10 percent levels respectively.

**Table 5.2. Correlates of coordination failure indicators – Fixed effect regression**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Communication	0.073*** (0.018)	0.038*** (0.012)	0.033*** (0.011)	0.039*** (0.008)	0.004 (0.015)	0.066*** (0.013)
Leadership	-0.020 (0.029)	0.002 (0.023)	0.017 (0.018)	0.045*** (0.017)	0.050*** (0.019)	0.015 (0.016)
Incentives	0.054*** (0.018)	0.029*** (0.010)	0.036*** (0.010)	0.022** (0.009)	0.025** (0.010)	0.034*** (0.009)
Knowledge of targets	0.165** (0.066)	0.232*** (0.050)	0.022 (0.040)	0.104** (0.044)	0.199*** (0.060)	0.160*** (0.042)
Level of Utilization	0.002 (0.063)	-0.007 (0.037)	0.051 (0.036)	0.061 (0.038)	0.201*** (0.041)	0.105*** (0.039)
Age	-0.009 (0.008)	-0.003 (0.005)	0.003 (0.004)	-0.006 (0.005)	-0.005 (0.005)	0.010** (0.005)
School Years	-0.011 (0.028)	0.007 (0.017)	-0.008 (0.015)	-0.018 (0.014)	-0.013 (0.018)	0.013 (0.018)
Tenure	0.015 (0.009)	0.006 (0.007)	-0.000 (0.005)	0.005 (0.006)	0.008 (0.007)	-0.013* (0.007)
On the job training	-0.014 (0.014)	0.020 (0.012)	-0.001 (0.014)	0.006 (0.010)	0.034*** (0.013)	0.015 (0.011)
Clear Job description	-0.056 (0.066)	0.024 (0.043)	0.060 (0.042)	0.043 (0.031)	0.046 (0.050)	0.044 (0.044)
Ministry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	1.464* (0.825)	1.254** (0.580)	1.871*** (0.499)	1.899*** (0.464)	0.837 (0.586)	-0.357 (0.622)
Observations	385	385	385	385	385	385
R-squared	0.262	0.295	0.312	0.300	0.314	0.387

## Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1
3. Communication is the total sum of scores from all respondents on the communication indicators including level of interaction, level of information sharing, level of feedback, message interpretation, freedom of expression and rate of responsiveness).
4. Leadership effectiveness is the aggregate of the manager's communication ability, his credibility, ability to conform to the ethical code of ethics, to steer direction and to induce action.
5. Incentive structure is the summation of rewarding high performance, sanctioning poor performers, promotion based on performance, talent promotion, and retention of an outstanding officer.

**Table 5.3. Correlates of coordination failure indicators - Ordered probit model**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Communication	0.091*** (0.021)	0.061*** (0.020)	0.071*** (0.021)	0.089*** (0.019)	0.009 (0.020)	0.114*** (0.021)
Leadership	-0.027 (0.031)	0.009 (0.037)	0.045 (0.036)	0.095*** (0.036)	0.082*** (0.026)	0.029 (0.028)
Incentives	0.054*** (0.019)	0.046*** (0.016)	0.064*** (0.017)	0.050*** (0.019)	0.042*** (0.015)	0.061*** (0.015)
Knowledge of targets	0.160** (0.067)	0.383*** (0.080)	0.077 (0.074)	0.219** (0.093)	0.277*** (0.079)	0.278*** (0.068)
Level of Utilization	-0.019 (0.069)	-0.008 (0.059)	0.089 (0.065)	0.133* (0.080)	0.282*** (0.058)	0.164*** (0.061)
Age	-0.010 (0.008)	-0.006 (0.008)	0.004 (0.008)	-0.014 (0.010)	-0.009 (0.008)	0.017** (0.008)
School Years	0.000 (0.029)	0.011 (0.027)	-0.009 (0.034)	-0.043 (0.029)	-0.023 (0.027)	0.020 (0.029)
Tenure	0.012 (0.009)	0.010 (0.011)	0.000 (0.012)	0.011 (0.013)	0.012 (0.011)	-0.022* (0.011)
On the job training	-0.022 (0.014)	0.036* (0.020)	0.007 (0.028)	0.012 (0.020)	0.056*** (0.018)	0.026 (0.019)
Clear Job description	-0.061 (0.071)	0.037 (0.068)	0.126 (0.086)	0.103 (0.065)	0.072 (0.072)	0.081 (0.072)
Ministry Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	385	385	385	385	385	385

## Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5. 4. Correlates of coordination failure indicators - Xtoprobit model**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & Equitable Treatment
Communication	0.097*** (0.025)	0.100*** (0.024)	0.084*** (0.027)	0.108*** (0.028)	0.003 (0.023)	0.128*** (0.025)
Leadership	-0.036 (0.038)	0.056 (0.038)	0.044 (0.041)	0.128*** (0.043)	0.087** (0.037)	0.004 (0.039)
Incentives	0.048** (0.022)	0.063*** (0.021)	0.092*** (0.024)	0.052** (0.025)	0.042** (0.021)	0.078*** (0.023)
Knowledge of targets	0.172* (0.090)	0.338*** (0.088)	0.244** (0.097)	0.142 (0.099)	0.257*** (0.085)	0.280*** (0.090)
Level of Utilization	0.081 (0.077)	0.013 (0.073)	0.113 (0.080)	0.264*** (0.083)	0.348*** (0.071)	0.236*** (0.076)
Age	-0.007 (0.010)	0.004 (0.010)	0.004 (0.011)	-0.019* (0.012)	-0.010 (0.010)	0.022** (0.010)
School Years	0.013 (0.039)	-0.017 (0.038)	0.040 (0.041)	-0.098** (0.044)	0.001 (0.036)	0.026 (0.040)
Tenure	0.017 (0.013)	0.005 (0.013)	-0.001 (0.015)	0.004 (0.015)	0.026** (0.013)	-0.029** (0.014)
Training	-0.012 (0.030)	0.028 (0.029)	-0.010 (0.032)	0.025 (0.034)	0.051* (0.029)	0.010 (0.032)
Clear Job description	-0.029 (0.079)	0.002 (0.077)	0.084 (0.084)	0.073 (0.087)	0.083 (0.074)	0.061 (0.078)
Department fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Constant						
Observations	385	385	385	385	385	385
No. of Departments	100	100	100	100	100	100

**Notes**

1. Standard errors in parenthesis
2. \*\*\* p<0.01, \*\*p<0.05, \*p<0.10.
3. A panel is applied at the departmental level

**Table 5. 5. Correlates of coordination failure indicators per category of staff – Fixed effect regression**

Variables	Officers			Managers		
	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Time Keeping for meetings	(5) Participation level in report writing	(6) Effort officers put to actual work
Communication	0.087*** (0.020)	0.045*** (0.013)	0.031** (0.012)	0.026 (0.054)	0.014 (0.039)	0.034 (0.030)
Leadership	-0.041 (0.032)	-0.001 (0.025)	0.007 (0.019)	0.132* (0.072)	0.020 (0.054)	0.104** (0.052)
Incentives	0.044** (0.019)	0.024** (0.011)	0.037*** (0.011)	0.088* (0.048)	0.069*** (0.026)	0.013 (0.025)
Knowledge of targets	0.158** (0.076)	0.209*** (0.057)	-0.002 (0.048)	0.098 (0.177)	0.330*** (0.107)	0.034 (0.096)
Level of Utilization	-0.013 (0.074)	-0.010 (0.043)	0.065 (0.042)	-0.027 (0.147)	-0.101 (0.086)	0.029 (0.076)
Age	-0.019 (0.012)	-0.006 (0.007)	0.004 (0.006)	-0.009 (0.015)	-0.004 (0.010)	-0.017* (0.009)
School Years	0.014 (0.036)	0.028 (0.020)	-0.009 (0.017)	-0.091 (0.064)	-0.073** (0.032)	-0.008 (0.048)
Tenure	0.019 (0.016)	0.010 (0.008)	-0.003 (0.007)	0.003 (0.016)	-0.011 (0.009)	0.003 (0.009)
On the job training	-0.030 (0.020)	0.036** (0.014)	-0.014 (0.016)	0.012 (0.035)	-0.024 (0.026)	0.029 (0.028)
Clear Job description	-0.037 (0.080)	0.047 (0.053)	0.073 (0.047)	-0.189 (0.120)	0.014 (0.071)	0.046 (0.073)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	1.689 (1.026)	0.964 (0.626)	2.039*** (0.604)	2.057 (1.894)	2.891** (1.446)	1.846 (1.447)
Observations	297	297	297	88	88	88
R-squared	0.297	0.344	0.351	0.379	0.451	0.413

Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5. 6. Communication indicators with coordination failure indicators – Order Probit**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Information sharing	0.061 (0.076)	0.160** (0.070)	0.110 (0.073)	0.247*** (0.068)	0.072 (0.072)	0.085 (0.076)
Level of interaction	0.112* (0.061)	-0.012 (0.057)	0.032 (0.059)	0.100 (0.064)	-0.071 (0.069)	0.076 (0.069)
Feedback	0.183* (0.099)	0.308*** (0.082)	0.099 (0.095)	0.291*** (0.110)	0.215** (0.087)	0.550*** (0.092)
Message Interpretation	0.041 (0.066)	0.150** (0.062)	0.114 (0.073)	0.062 (0.055)	-0.071 (0.056)	-0.018 (0.064)
Clarity of Information	-0.028 (0.070)	-0.047 (0.072)	-0.035 (0.094)	0.003 (0.080)	-0.077 (0.071)	-0.007 (0.082)
Freedom of expression	0.127*** (0.037)	-0.024 (0.038)	0.075** (0.037)	-0.010 (0.037)	0.007 (0.033)	0.094*** (0.034)
Leadership	-0.031 (0.031)	0.008 (0.037)	0.054 (0.036)	0.095** (0.039)	0.085*** (0.027)	0.019 (0.028)
Incentives	0.056*** (0.020)	0.033* (0.017)	0.064*** (0.018)	0.041** (0.020)	0.033** (0.017)	0.049*** (0.016)
Knowledge of targets	0.145** (0.071)	0.383*** (0.085)	0.078 (0.078)	0.257*** (0.097)	0.236*** (0.078)	0.268*** (0.067)
Level of Utilization	-0.042 (0.074)	-0.014 (0.059)	0.098 (0.065)	0.129 (0.084)	0.274*** (0.060)	0.104* (0.061)
Age	-0.011 (0.009)	-0.002 (0.009)	0.003 (0.008)	-0.010 (0.010)	-0.011 (0.008)	0.017* (0.009)
School Years	-0.004 (0.028)	0.006 (0.026)	-0.014 (0.034)	-0.040 (0.030)	-0.023 (0.028)	0.018 (0.029)
Tenure	0.014 (0.010)	0.006 (0.011)	0.003 (0.012)	0.015 (0.014)	0.018 (0.012)	-0.020* (0.011)
On the job training	-0.021 (0.014)	0.033* (0.020)	0.011 (0.030)	0.013 (0.021)	0.060*** (0.020)	0.023 (0.020)
Clear Job description	-0.040 (0.071)	0.046 (0.072)	0.126 (0.085)	0.080 (0.066)	0.072 (0.076)	0.075 (0.073)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	379	379	379	379	379	379

Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5. 7. Leadership indicators with coordination failure indicators – Ordered Probit**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Conformity to ethical code	-0.046 (0.081)	0.014 (0.092)	0.188** (0.086)	0.122 (0.079)	0.130* (0.070)	0.173** (0.074)
Managers' Credibility	0.028 (0.048)	0.019 (0.049)	0.054 (0.047)	0.065 (0.050)	0.110** (0.043)	0.032 (0.042)
Steering direction	-0.091* (0.050)	-0.026 (0.068)	-0.093 (0.059)	0.081 (0.072)	-0.004 (0.046)	-0.080 (0.050)
Communication ability	-0.054 (0.265)	0.040 (0.318)	-0.062 (0.173)	0.004 (0.165)	0.363* (0.192)	-0.126 (0.211)
Inducing good performance	-0.093 (0.112)	0.065 (0.103)	0.199 (0.127)	0.331** (0.131)	0.065 (0.117)	0.112 (0.121)
Communication	0.092*** (0.021)	0.061*** (0.021)	0.069*** (0.021)	0.090*** (0.019)	0.008 (0.020)	0.111*** (0.021)
Incentives	0.051*** (0.019)	0.045*** (0.017)	0.058*** (0.018)	0.051*** (0.019)	0.037** (0.015)	0.054*** (0.016)
Knowledge of targets	0.151** (0.068)	0.385*** (0.080)	0.087 (0.075)	0.239** (0.096)	0.269*** (0.077)	0.284*** (0.068)
Level of Utilization	-0.021 (0.068)	-0.006 (0.058)	0.089 (0.064)	0.141* (0.080)	0.282*** (0.059)	0.162*** (0.061)
Age	-0.011 (0.008)	-0.005 (0.009)	0.008 (0.008)	-0.011 (0.010)	-0.008 (0.008)	0.020** (0.009)
School Years	-0.003 (0.029)	0.010 (0.027)	-0.012 (0.033)	-0.040 (0.029)	-0.028 (0.027)	0.017 (0.030)
Tenure	0.012 (0.009)	0.010 (0.011)	0.001 (0.012)	0.012 (0.012)	0.012 (0.011)	-0.021* (0.011)
On the job training	-0.025* (0.014)	0.036* (0.020)	0.007 (0.029)	0.013 (0.020)	0.054*** (0.019)	0.028 (0.019)
Clear Job description	-0.061 (0.068)	0.035 (0.067)	0.114 (0.085)	0.090 (0.065)	0.076 (0.073)	0.070 (0.071)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	385	385	385	385	385	385

Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



**Table 5. 8. Incentive indicators with coordination failure indicators – Ordered probit**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Rewarding high performance	0.070 (0.052)	0.002 (0.045)	0.123** (0.048)	0.035 (0.048)	-0.004 (0.044)	-0.036 (0.047)
Sanctioning poor performers	0.047 (0.077)	0.131** (0.058)	0.194*** (0.069)	0.056 (0.059)	0.058 (0.064)	0.114* (0.065)
Promotion based on performance	0.121** (0.061)	0.054 (0.062)	0.040 (0.060)	0.094 (0.061)	0.020 (0.061)	0.068 (0.061)
Talent promotion	0.081 (0.057)	0.028 (0.056)	-0.040 (0.058)	0.097* (0.057)	0.110* (0.064)	0.145*** (0.054)
Retention of an outstanding officer	-0.049 (0.051)	0.035 (0.059)	0.001 (0.065)	-0.028 (0.061)	0.040 (0.055)	0.046 (0.057)
Communication	0.090*** (0.021)	0.058*** (0.020)	0.068*** (0.021)	0.088*** (0.020)	0.009 (0.021)	0.113*** (0.022)
Leadership	-0.027 (0.031)	0.008 (0.037)	0.044 (0.035)	0.097*** (0.036)	0.085*** (0.027)	0.031 (0.029)
Knowledge of targets	0.153** (0.068)	0.390*** (0.081)	0.071 (0.075)	0.217** (0.094)	0.284*** (0.080)	0.293*** (0.070)
Level of Utilization	-0.025 (0.070)	0.005 (0.060)	0.113* (0.067)	0.129 (0.082)	0.282*** (0.059)	0.169*** (0.062)
Age	-0.014 (0.009)	-0.006 (0.009)	-0.001 (0.008)	-0.016 (0.010)	-0.008 (0.008)	0.018** (0.009)
School Years	0.002 (0.029)	0.012 (0.027)	-0.007 (0.034)	-0.042 (0.029)	-0.025 (0.027)	0.020 (0.030)
Tenure	0.012 (0.010)	0.011 (0.011)	0.001 (0.012)	0.011 (0.013)	0.014 (0.011)	-0.020* (0.011)
On the job training	-0.024 (0.015)	0.035* (0.019)	0.002 (0.030)	0.011 (0.020)	0.054*** (0.019)	0.024 (0.019)
Clear Job description	-0.061 (0.071)	0.035 (0.068)	0.112 (0.085)	0.107 (0.066)	0.079 (0.072)	0.091 (0.071)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	385	385	385	385	385	385

## Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5.9. Management tools with office characteristics**

Variable	Mean	Job Description		P-Value
		Un clear	Clear	
Communication	0.298	0.206 (0.039)	0.335 (0.028)	0.013
Leadership	0.039	0.037 (0.018)	0.039 (0.011)	0.921
Incentives	0.062	0.037 (0.018)	0.072 (0.015)	0.210
Knowledge of targets	0.728	0.576 (0.049)	0.784 (0.025)	0.000
No. of observations (385)		107	278	
		Closed office layout		
		Open door	Closed door	
Communication	0.298	0.314 (0.031)	0.277 (0.036)	0.431
Leadership	0.039	0.035 (0.012)	0.044 (0.016)	0.668
Incentives	0.062	0.075 (0.018)	0.044 (0.016)	0.214
Knowledge of targets	0.728	0.759 (0.029)	0.684 (0.038)	0.111
No. of observations (385)		226	159	

## Notes

1. Standard deviation in parentheses
2. The p-value is the difference in means between those who report to have clear job descriptions and those without.

### Robustness Checks

**Table 5. 10. Correlates of coordination failure indicators – Linear probability model**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Communication	0.024*** (0.008)	0.008 (0.008)	0.014** (0.006)	0.021*** (0.006)	0.002 (0.007)	0.030*** (0.008)
Leadership	-0.009 (0.012)	0.000 (0.014)	0.016 (0.012)	0.017* (0.010)	0.020* (0.011)	0.010 (0.011)
Incentives	0.020** (0.008)	0.012* (0.007)	0.015*** (0.005)	0.010* (0.006)	0.019*** (0.006)	0.019*** (0.006)
Knowledge of targets	0.076** (0.030)	0.147*** (0.026)	0.037 (0.025)	0.056** (0.026)	0.054* (0.028)	0.063** (0.026)
Level of Utilization	0.008 (0.026)	0.042 (0.026)	0.027 (0.024)	0.066*** (0.023)	0.085*** (0.025)	0.052** (0.023)
Age	-0.003 (0.003)	0.001 (0.003)	-0.000 (0.002)	-0.002 (0.003)	-0.002 (0.003)	0.005 (0.003)
School Years	-0.012 (0.012)	-0.000 (0.012)	-0.003 (0.011)	-0.005 (0.008)	-0.005 (0.011)	0.015 (0.010)
Tenure	0.009** (0.004)	0.000 (0.006)	-0.001 (0.004)	0.001 (0.003)	0.002 (0.004)	-0.004 (0.004)
On the job training	-0.001 (0.007)	0.020** (0.008)	0.003 (0.009)	0.004 (0.007)	0.022*** (0.008)	0.022*** (0.008)
Clear Job description	-0.024 (0.027)	0.008 (0.025)	0.020 (0.026)	0.010 (0.019)	0.065** (0.031)	0.011 (0.027)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.038 (0.355)	0.406 (0.372)	-0.194 (0.315)	-0.387 (0.307)	-0.793** (0.344)	-1.501*** (0.317)
Observations	385	381	385	385	377	385
R-squared	0.234	0.234	0.213	0.235	0.262	0.296

Notes

1. Robust standard errors in parentheses clustered at departmental level.
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1
3. The dependent variables are dummies with a value of 1 if score is 4 or 5, otherwise 0.

**Table 5. 11. Correlates of coordination failure – Derivative probit**

Variables	(1) Time Keeping for meetings	(2) Participation level in report writing	(3) Effort officers put to actual work	(4) Quality of work	(5) Productivity Improvement	(6) Fair & equitable treatment
Communication	0.024*** (0.009)	0.012 (0.009)	0.014** (0.006)	0.016*** (0.006)	0.003 (0.008)	0.033*** (0.008)
Leadership	0.009 (0.012)	0.010 (0.014)	0.022** (0.011)	0.025** (0.010)	0.031** (0.013)	0.024* (0.012)
Incentives	0.020** (0.008)	0.006 (0.008)	0.016*** (0.005)	0.007 (0.005)	0.027*** (0.008)	0.020*** (0.007)
Knowledge of targets	0.099*** (0.034)	0.184*** (0.035)	0.040* (0.023)	0.054** (0.023)	0.064* (0.033)	0.085*** (0.028)
Level of Utilization	-0.011 (0.027)	0.029 (0.027)	0.030 (0.019)	0.043** (0.018)	0.103*** (0.027)	0.055** (0.025)
Age	-0.005 (0.003)	-0.000 (0.004)	-0.003 (0.003)	-0.002 (0.003)	-0.002 (0.004)	0.004 (0.003)
School Years	-0.008 (0.014)	0.002 (0.014)	-0.004 (0.011)	-0.003 (0.008)	-0.015 (0.012)	0.021* (0.012)
Tenure	0.010** (0.005)	0.001 (0.006)	0.000 (0.004)	0.001 (0.003)	0.001 (0.005)	-0.004 (0.004)
On the job training	-0.007 (0.007)	0.009 (0.010)	0.001 (0.008)	0.003 (0.007)	0.023** (0.009)	0.024** (0.011)
Clear Job description	0.013 (0.029)	0.022 (0.030)	0.034 (0.021)	0.018 (0.015)	0.076** (0.033)	0.012 (0.029)
Observations	385	385	385	385	377	385

## Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1
3. Dependent variables are dummies taking value 1 for scores of 4 and 5, and 0 otherwise.

**Table 5. 12. Correlates of the level of coordination**

Variables	(1) Level of coordination	(2) Level of coordination	(3) Level of coordination	(4) Level of coordination	(5) Level of coordination
Communication	0.390*** (0.042)				0.288*** (0.040)
Leadership		0.157* (0.087)			0.061 (0.079)
Incentives			0.280*** (0.044)		0.202*** (0.036)
Knowledge of targets				1.279*** (0.194)	0.915*** (0.172)
Level of Utilization	0.409** (0.173)	0.768*** (0.192)	0.538*** (0.180)	0.637*** (0.195)	0.205 (0.162)
Age	-0.005 (0.021)	0.004 (0.023)	0.014 (0.021)	-0.010 (0.020)	-0.008 (0.019)
School Years	0.005 (0.059)	0.033 (0.070)	-0.010 (0.070)	0.013 (0.060)	-0.009 (0.057)
Tenure	0.002 (0.024)	-0.003 (0.026)	0.010 (0.027)	0.007 (0.024)	0.019 (0.020)
On the job training	0.056 (0.041)	0.056 (0.049)	0.044 (0.045)	0.033 (0.046)	0.045 (0.036)
Clear Job description	0.211 (0.172)	0.297 (0.187)	0.272 (0.185)	0.236 (0.172)	0.140 (0.168)
Ministry fixed effects	Yes	Yes	Yes	Yes	Yes
Constant	10.951*** (1.868)	14.246*** (2.326)	14.442*** (1.826)	13.758*** (1.783)	7.387*** (2.046)
Observations	385	385	385	385	385
R-squared	0.396	0.269	0.344	0.369	0.501

## Notes

1. Robust standard errors in parentheses clustered at departmental level;
2. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1
3. Coordination level is the aggregate of the objects of analysis of coordination failure including time keeping, participation level in report writing, effort level put to actual work in a day, the quality of work produced, productivity improvement and fair and equitable treatment of officers.

**Table 5. 13. Level of management and coordination by ministry**

Ministry code	Ministry	Communication (a)	Leadership (b)	Incentives (c)	Management Level (a +b +c)	Coordination Level
2	Defense	22.67	17.57	15.22	55.46	24.67
4	Education	22.75	18.68	15.80	57.23	24.35
6	Finance	22.64	16.65	15.75	55.03	23.99
7	Foreign Affairs	22.82	17.38	12.94	53.13	23.93
15	Public service	21.24	16.36	16.29	53.88	23.77
17	Trade	23.00	17.81	17.00	57.81	23.00
11	Internal affairs	21.39	17.23	13.42	52.04	22.85
14	Local government	21.08	17.87	13.83	52.78	22.50
1	Agriculture	22.31	16.51	13.67	52.49	22.32
12	Justice	20.19	17.61	11.35	49.15	22.19
20	OPM	23.68	14.91	15.89	54.49	21.37
18	Water	21.42	16.62	14.41	52.45	21.71
16	Tourism	22.11	17.04	14.81	53.95	21.69
19	Works	19.56	16.82	11.58	47.96	21.63
3	EAC	18.86	15.82	13.14	47.82	21.14
5	Energy	20.34	16.27	15.17	51.79	20.93
9	Health	22.06	15.97	14.06	52.10	20.84
13	Lands	21.13	15.94	14.12	51.19	20.74
8	Gender	18.93	16.28	12.11	47.32	19.95
10	ICT	18.50	15.83	10.10	44.43	19.80
	Total	21.47	16.66	14.06	52.18	22.10

**Notes**

1. Management level is the aggregate of the three management tools including communication, leadership and incentives. The highest score for communication is 30 since it has six indicators each with a score of 1 to 5. The highest for leadership is 25 and that of incentives is also 25.
2. Coordination level is the aggregate of the objects of analysis of coordination failure including time keeping for meetings, participation in report writing, effort level put to actual work, quality of work, performance improvement and fair and equitable treatment of staff.

## FIGURES

Figure 2. 1. A simple coordination game

		Column player's strategy	
		1	2
Row Player's strategy	1	800, 800	800, 0
	2	0, 800	1,000 , 1,000

Source: Cooper et al. (1992)

**Figure 2. 2. A hypothetical situation of a coordination game and coordination failure in government offices**

		Officer 2's action	
		Minimum effort required to avoid punishment	Effort level needed to achieve team goals
Officer 1's action	Minimum effort required to avoid punishment	<b>A</b> <b>(500,500)</b>	<b>B</b> <b>( 300,-100)</b>
	Effort level needed to achieve team goals	<b>C</b> <b>( -100, 300)</b>	<b>D</b> <b>(1000,1000)</b>

Notes

Cell A and D represents Pareto ranked Nash equilibria, where A is the lower outcome (an inferior Nash equilibria) and D is the desired outcome if ever attained (superior Pareto dominant equilibria).

In cell A, both Officers put in minimum effort towards an activity because each expects the other to put in minimum effort and finds no incentive to deviate hence leading to lower outcomes (each player chooses an option that he considers optimal) – Coordination failure.

In cell B, officer 1 puts in minimum effort while Officer 2 puts in higher effort but the pay is still structured though Officer 2 may be recognized for extra assignments that may earn him an extra allowance but this is not guaranteed - there is no structured or guaranteed incentive for hard work which leads to loss of motivation hence the disequilibrium.

In cell C, officer 1 puts in higher effort while Officer 2 puts in minimum effort and the conditions and outcome are as in B above.



In cell D, if both Officers coordinate and each puts in higher effort, then the desired efficient superior outcome can be achieved - Pareto dominant equilibrium – successful coordination.

**APPENDIX 1**  
**SURVEY OF GOVERNMENT OFFICIALS IN UGANDA, 2016**

Questionnaire for department Officers

QUESTIONNAIRE ID: \_\_\_\_\_ DATE: \_\_\_/

\_\_\_\_\_/ \_\_\_\_\_ NUMERATOR'S NAME: \_\_\_\_\_

DATA-CAPTURE STATUS: \_\_\_\_\_

<b>1QE ID:</b>					
<b>START</b>	<b>HR</b>	<b>MIN</b>	<b>END</b>	<b>HR</b>	<b>MIN</b>

**TO ENUMERATOR:**

- Before proceeding to the survey questions, please explain the objective of the survey clearly to the respondent. The respondent should also be convinced that the information obtained is private, and that we will not reveal the respondent's name, organization name, or any other identifying information to a third party.
- Before starting an interview with the respondent, please tell the respondent that the interview will touch on some sensitive issues, and try to conduct the interview in a place where the respondent can talk freely without being overheard.

**TO SURVEY RESPONDENT:**

- This survey is part of a research project of the National Graduate Institute for Policy Studies (GRIPS) in Japan, which is supported by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) under the Program for Leading Graduate Schools Project. The objective of this study is to explore steps toward a more productive and comfortable work environment in public offices while at the same time ensuring timely and effective public service delivery in developing countries.
- Your responses are kept confidential and anonymous. We promise that any information collected through the interviews with you will be used exclusively for the academic research purpose. When we report the results of our research, we will show only the averages, variances, and other aggregate statistics of the collected data and not any individual level data. It is impossible to infer from these aggregate statistics what your answer to any question is.
- Your kind cooperation will be highly appreciated

RESPONDENT' S INFORMATION

1. How many times have you received job related training in the last five years?  
.....
2. On average, how useful were the trainings?  
1. Not at all useful  2. Somehow useful  3. Neither/nor useful  4. Useful  5. Very useful
3. Prior to joining this department, where else were you employed? Was it in a government institution, a private entity or in a Non-governmental organization? Please choose all that apply  
1. No former employment 2. Government  3. Private  4. NGO  5. Others [If No, skip to No. 5]

4. In total how many years did you work in each of the previous sector(s) you have mentioned?

Sector	Number of Years
Government	
Private	
NGO	
Other: _____	

5. With reference to June 2016, how long have you served on the current job?:  
\_\_\_\_\_years

OFFICE CHARACTERISTICS

6. How many staff are currently employed in this department? .....  
6b) Of these, how many are officers? ..... 6c) How many are support staff?  
.....
7. a) How old is the youngest officer in this department? .....  
b) How old is the eldest officer in this department? .....
8. From your schedule of duties, how would you rate the clarity of your job description on a score of 1 to 5, where 5 is very clear and 1 is very unclear?

0. I have no schedule of duties 1. Very unclear  2. Not Clear  3. Neutral  4. Clear  5. Very clear
9. How often do you work in line with your schedule of duties? [Read out options]  
 1. Don't know  2. Never  3. Sometimes  4. Most of the time  5. All the time
10. In your opinion, how well do you feel your level of training is matched with your schedule of duties?  
 1. Not at all Matched  2. Somewhat mismatched  3. Neither matched nor mismatched  4. Somewhat well matched  5. Well matched
11. [Don't Ask] Office lay out can affect both communication and coordination practices in the office. Enumerator observe and mark whether office is:  
 1. Closed office-plan with closed door  2. Closed office-plan with open door  3. Open-plan office
12. What is your opinion about the physical layout (set up) of your office in relation to coordinating activities in the department?  
 1. Poor  2. Average  3. Good  4. Very Good  5. Excellent
13. With respect to your current employment, have you ever experienced a feeling of being underutilized?  
 1. Yes  2. No
14. In your opinion, how well do you feel utilized in your current job position?  
 1. Very underutilized  2. Relatively underutilized  3. Neither underutilized nor utilized  4. Relatively utilized  5. Well Utilized
15. [If feels under-utilized]. In your opinion, what is the main cause of the under-utilization? [accept up to 3 reasons]  
 1<sup>st</sup> reason: .....  
 2<sup>nd</sup> reason: .....  
 3<sup>rd</sup> reason: .....
16. How do you rate the quality of work performed by your officers in the department?  
 1. Very poor  2. Poor  3. Fair  4. Good  5. Very good

17. Over the last 2 years, how do you rate your department in terms of improvement in productivity? 1. I don't know  2. No improvement  3. Slightly improved  4. Improved  5. Highly improved
18. How do you rate your department in regards to providing fair and equitable treatment for employees? 1. Very poor  2. Poor  3. Fair  4. Good  5. Very good
19. How do you rate the effectiveness of performance appraisals in regard to improving performance in this department? 1. Very ineffective  2. Not effective  3. Somewhat effective  4. Effective  5. Very effective

#### COORDINATION GAME

20. What proportion of your fellow officers in this department is knowledgeable about performance targets set by the department? Is it .....
1. I don't know  2. All do not Know  3. A few Know  4. Majority Know  5. All know
21. In your opinion, what proportion of your fellow officers in this department show a desire to achieve the set department targets? 1. I don't know  2. None desires  3. A few desire  4. The majority desire  5. All desire
22. In the course of implementing your schedule of duties, how often do you feel uncertain of the best way to handle certain activities? 1. I don't know  2. Never  3. A few times  4. Most of the time  5. Always
23. Again, in the course of implementing your schedule of duties, how often do you consult? 1. I don't know  2. Never  3. A few times  4. Most of the time  5. All the time
24. How often do you get to know or to be updated on the outcome of the assignments you handle? 1. I don't know  2. Never sure  3. A few times  4. Most of the time  5. Always sure

25. In your opinion, how interactive are your fellow officers in this department with regards to executing assignments? Are they .....
1. Highly individualistic  2. Somewhat individualistic  3. Neither/Nor interactive   
 4. Somewhat Highly interactive  5. Relatively interactive
26. To what extent do you consider your fellow officers' work related actions or behavior when making decisions concerning the department?
1. Never  2. To limited extent  3. To some extent  4. To a good extent   
 5. Great extent
27. In your opinion, to what extent do work-related actions of your fellow officers in this department affect your performance?
1. I don't know  2. No effect at all  3. Affects to a limited extent   
 4. To a moderate extent  5. To a large extent
28. What proportion of your fellow officers in this department do you feel are clear about the benefits associated with achieving the department's set targets? Is it .....
1. I don't know  2. Not clear to all  3. Clear to a few  4. Clear to the majority   
 5. Clear to everyone

COORDINATION FAILURE

29. In your opinion, how much effort do you feel this department invests in conforming to the set institutional rules? Is it ..... [read out options]
1. I don't know  2. No effort at all  3. A little effort  4. Quite an effort   
 5. A lot of effort
30. To what extent does this department enforce penalties to officers who do not maintain the required performance standards? Is it ..... [Read out options]
1. No penalties  2. Not enforced at all  3. To a little extent  4. To some extent   
 5. To great extent
31. In your opinion, how adequate is the remuneration (i.e. both monetary and non-monetary) paid for the work you do? Is it ..... [read out options]
1. Not adequate  2. Relatively inadequate  3. Fairly adequate  4. Relatively Adequate  5. Adequate
32. [If Not adequate] What motivates you to work? [record up to 3 responses]
- 1<sup>st</sup> reason: .....
- 2<sup>nd</sup> reason: .....
- 3<sup>rd</sup> reason: .....

33. In your opinion, to what extent are officers in this department free to air out their views with regards to office operations? 1. Not free at all  2. Somewhat not free  3. Neither/nor free  4. Somewhat free  5. Very free
34. How do you rate the level of feedback mechanism in your office?  
1. Very poor  2. Poor  3. Fair  4. Good  5. Very Good
35. In your opinion, what proportion of your fellow officers in this department would forego a private cash business transaction to attend to office work during office hours?  
1. Don't know  2. All not forego  3. Few not forego  4. Few forego   
5. All forego
36. How about you? Would you forego a private cash business transaction to attend to office work during office hours?  
5. Most likely forego  4. Possibly forego  3. Don't know  2. Possibly not forego   
 1. Most likely not forego .
37. Does this department experience any form of inefficient practices such as poor time management, absenteeism and others that may affect performance?  
1. Yes  2. No
38. [If Yes] Am going to read to you a list of some inefficient practices common in offices. For each inefficient practice, please tell me whether the practice affects your personal performance or the performance of your colleagues or both. (Read each inefficient practice)

Inefficient practice	Affects me	Affects colleagues	Affects both	Affects None
Poor time management	1	2	3	9
No incentive for hard work	1	2	3	9
Poor filing	1	2	3	9
Political interference	1	2	3	9
Do not follow work plans	1	2	3	9
Absenteeism	1	2	3	9
Poor communication	1	2	3	9
Poor leadership	1	2	3	9
Any other? (Specify)				

39. Which of the above listed inefficient practice is most common in this department?

Inefficient practice	Most common
Poor time management	1
No incentive for hard work	2
Poor filing	3
Political interference	4
Do not follow work plans	5
Absenteeism	6
Poor communication	7
Poor leadership	8
Any other? (Specify)	

Communication

40. How do you rate the clarity of information you receive in regards to containing the exact required action?

1. Very unclear  2. Unclear  3. Neither / Nor clear  4. Clear  5. Very clear

41. How often do you hold work-related interaction with the colleague in this department that you most interact with? Would you say .....? [Read out options]

1. Don't know  2. More than a week  3. At least once a week  4. Once a day   
5. More than once a day

42. How often do you hold work-related interaction with the colleague in this department, that you least interact with? Would you say .....? [Read out options]

1. Don't know  2. More than a week  3. At least once a week  4. Once a day   
5. More than once a day

43. How satisfied are you with the status of information sharing in this department?

1. Very dissatisfied  2. Dissatisfied  3. Neither/Nor satisfied  4. Satisfied   
5. Very satisfied

44. How often does your department hold formal staff meetings?

1. Daily  2. Weekly  3. Monthly  4. Quarterly  5. Never

45. How effective are formal meetings in this department in regards to implementation of what has been agreed upon?



1. Not effective  2. Not so effective  3. Fair  4. Effective  5. Very effective
46. In your opinion, how is the communication ability of the head of this department with respect to conveying clear messages?
1. Very Poor  2. Poor  3. Neither/Nor good  4. Good  5. Very good

Leadership

47. Have you ever experienced a scenario where you do not understand technical issues pertaining to work in the department?
1. Yes  2. No
48. [If Yes] How often do you ever experience this scenario?
1. Never  2. A few times  3. Most of the time  4. All the time .
49. When your head of department finds some officers not understanding some technical issues pertaining to the department, how does s/he handle the situation? [accept up to 2 responses]
- 1<sup>st</sup> response: .....
- 2<sup>nd</sup> response: .....
50. When your head of department expects an officer to go for consultation regarding an issue and they do not go, how does s/he handle the situation? [accept up to 2 responses]
- 1<sup>st</sup> response: .....
- 2<sup>nd</sup> response: .....
51. How would you rate the response by your colleagues when your head of department instructs them to do something?
1. Very low  2. Relatively low  3. Moderate  4. Relatively high  5. Very high
52. From your experience working in this department, what are the approaches mostly used by your head of department to ensure information sharing? [accept up to 2 responses]
- 1<sup>st</sup> response: .....
- 2<sup>nd</sup> response: .....
53. In your opinion, how best does your head of department conform to the ethical code of conduct?
1. I don't know  2. Do not conform  3. Relatively conform  4. Conform

5. Highly conform

54. From your experience working in this department, how would you rate the relative importance of each of the following aspects to improving the credibility of your head of department? Is it ..... [read out options]

	Not important	Important	Most important
Communication	1	2	3
Conformity to rules	1	2	3
Ability to reward/penalize	1	2	3
Providing strategic direction	1	2	3
Fair and equitable treatment	1	2	3
Any other aspect?	1	2	3

55. Again, from your experience working in this department, how do you rate yourself under each of the following issues with regards to improving your credibility? Would you say .....? [read out options]

	Not well	Well	Very well
Communication	1	2	3
Conformity to rules	1	2	3
Ability to reward/penalize	1	2	3
Providing strategic direction	1	2	3
Fair and equitable treatment	1	2	3
Any other aspect?	1	2	3

#### Incentives

56. On a scale of 1 to 5, where 1 is very poor and 5 is very well, how well does this department reward high performing staff?

0. Does not reward  1. Very poor  2. Poor  3. Neither/Nor poor  4. Well   
5. Very well

57. To what extent is this department likely to sanction poor performers?

1. Does not sanction  2. Very unlikely  3. Unlikely  4. Likely  5. Very likely

58. Based on the understanding that the final decision for staff promotion is not made within this department, to what extent do promotions appear to be based on performance?

1. Not at all  2. To some extent  3. To a moderate extent  4. To a great extent   
5. Don't know
59. To what extent does your office promote job-related talents such as speech writing, report writing, presentation, among others?
1. Does not promote talent  2. To a limited extent  3. To a moderate extent   
4. Promotes talent  5. To a great extent
60. To what extent would your office try to retain an outstanding officer if she or he wanted to resign?
1. Not at all  2. To some extent  3. To a moderate extent  4. To a great extent   
5. Don't know
61. To what extent does the incentive structure induce sabotage among staff in this department?
1. Does not induce sabotage  2. To a limited extent  3. To a moderate extent   
4. To a great extent  5. I don't know
62. To what extent does the incentive structure encourage favoritism and influence peddling among staff in this department?
1. Does not encourage  2. Encourages to a limited extent   
3. Encourages to a moderate extent  4. Encourages to a great extent

### Time for Meetings

63. Regarding formal departmental meetings, do your fellow officers in this department keep time for the meetings?
1. All do not keep time  3. Some don't keep time  3. Don't know   
4. Some keep time  5. All keep time
64. How often do officers in this department keep time for meetings?
1. They never keep time  2. Rarely keep time  3. Don't know   
4. Keep time most of the time  5. Keep time all the time
65. On the occasions when your head of department comes late for a staff meeting, do you think your fellow officers will keep time for the same meeting?
1. None will keep time  2. A few will keep time  3. Don't know  4. Majority will keep time  5. All will keep time

66. If you were certain that your head of department would keep time for the staff meeting, do you think you will keep time? 1. None will keep time  2. A few will keep time  3. Don't know  4. Majority will keep time  5. All will keep time
67. When you keep time and your colleagues continuously come late, how will their behavior affect your time keeping?  
1. Will greatly reduce  2. Will reduce  3. No effect  4. Will increase  5. Will greatly increase
68. Have you ever experienced a situation where some officer's late coming influenced the time keeping levels of other officers?  
1. Yes  2. No
69. [If Yes] How often did this happen in the last year?  
1. Happened many times  2. Happened several times  3. Happened a few times  0. Don't know
70. [If Yes] How was the situation handled? (Can probe with: discussed it in subsequent meeting, caution, punishments, etc.)

	code
discussed it in subsequent meeting	1
caution	2
punishments	3
Any other? (Specify)	

71. What was the impact of the actions taken above?

Positive outcomes	code
Improved time keeping	1
Improved notifications in case of late coming	2
Improved notifications in case of absenteeism	3
Increased enquiries about the purpose of the meeting	
Any other? (Specify)	
Negative outcomes	
Increased late coming	6
Increased absenteeism from staff meeting	7
Loss of interest in staff meetings	8
Any other? (Specify)	

Report writing

72. How often do you produce departmental reports? (Multiple answers)

	code
Weekly	1
Monthly	2
Quarterly	3
Annually	4
Any other? (Specify)	

73. How would you rate the quality of the reports produced in this department?

1. Very poor  2. Poor  3. Fair  4. Good  5. Very good

74. Are all officers expected to participate in the production of this report?

1. All not expected to participate  2. Few not expected to participate   
 3. I don't know  4. Majority expected to participate  5. All expected to participate

75. How do you rate the participation level of your fellow officers in the production of the departmental report? 1. Very low  2. Low participation  3. Average

4. High participation  5. Very high

76. Do they submit their input to the report without being reminded?

1. Yes  2. No

77. How do you rate their participation level when reminders are circulated?

- Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

78. How about their participation level without reminders?

- Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

79. What is your head of department's contribution in the production of the report?

[Accept up to 3 responses]

1<sup>st</sup> response: .....

2<sup>nd</sup> response: .....

3<sup>rd</sup> response: .....

80. What is the participation level when the head of department is involved?

1. Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

81. How would you rate the quality of the reports written with the head of department's involvement?

1. Very poor  2. Poor  3. Fair  4. Good  5. Very good

82. How often do you get feedback when you submit reports?

1. I don't know  2. Never  3. A few times  4. Most of the time  5. All the time

83. What is the impact of feedback on the level of participation?

Positive outcomes	code
Increased participation	1
Increased interest in report writing	2
Timely submission of reports	3
Improved quality of the report	
Any other? (Specify)	
Negative outcomes	
Same or lower participation	6
Reduced interest in the report writing	7
Same or late submission of reports	8
Reduced quality of the report	9
Any other? (Specify)	

84. How can participation from all officers in this department be attained?

1<sup>st</sup> response: .....

2<sup>nd</sup> response: .....

3<sup>rd</sup> response: .....

EFFORT LEVEL

85. Knowing that over the duration of the 8-hour shift, there are bits of this time that employees inevitably use for personal matters. Excluding all these, how many hours in a day do you exclusively put to work in this department? [Enter number]

.....

86. On average, how much effort to you feel your fellow officers in this department commit to actual work in a day in this department?

1. Very poor effort  2. Poor effort  3. Fair effort  4. Good effort   
5. Very good effort

87. What is the maximum number of hours put to actual work by an officer you consider poor-performing in this department? [Enter number] .....
88. What is the maximum number of hours put to actual work by an officer you consider hard-working in this department? [Enter number]? .....
89. From your experience, to what extent does the behavior of the officer who puts the least number of hours affect the number of hours put into actual work by his/her colleagues? 1. I don't know  2. Doesn't affect  3. To a limited extent  4. To a moderate extent  5. To a great extent
90. To what extent do you think talking to encourage an officer you consider a poor-performer would make him/her improve his/her performance?  
1. I don't know  2. Doesn't affect  3. To a limited extent   
4. To a moderate extent  5. To a great extent
91. To what extent do you think writing to encourage an officer you consider a poor-performer would make him/her improve his/her performance?  
1. I don't know  2. Doesn't affect  3. To a limited extent  4. To a moderate extent  5. To a great extent
92. In your opinion, which of these two approaches mentioned above (i.e. talking or writing) improves performance the most? 1. Writing to the officer  2. Talking to the officer  3. Can't choose, both  4. Other .....
93. When your head of department sends a message to officers in this department, do you feel the message is interpreted the same way? I don't know  2. All have different interpretations  3. A few have similar interpretation  4. The majority have similar interpretation  5. All have similar interpretation
94. How often do they come back to you for clarity? 1. I don't know  2. Never   
3. A few times  4. Most of the time  5. All the time
95. Has your head of department ever induced a poorly-performing officer to a hard working officer? 1. Yes  2. No
96. [If Yes] How did s/he do it? [Accept up to 3 responses]  
1<sup>st</sup> response: .....

2<sup>nd</sup> response: .....

3<sup>rd</sup> response: .....

97. If an incentive to induce more effort put to work was introduced in this department, do you think officers would increase their level of effort?

- 1. I don't know
- 2. They will not increase
- 3. A few will increase
- 4. Majority will increase
- 5. All will increase

98. What type of incentive do you think would yield more work-effort in this department?

[Accept up to 3 responses]

1<sup>st</sup> response: .....

2<sup>nd</sup> response: .....

3<sup>rd</sup> response: .....

**RESPONDENT INFORMATION**

99. Age (Years) as of June 2016: \_\_\_\_\_

100. Gender 1. Female  2. Male

101. What is your rank? .....

102. Years of formal schooling (excluding short-term training of less than 1 year)\_\_\_\_\_

103. Highest Level of education qualification:

- 1. Certificate
- 2. Diploma
- 3. Bachelor
- 4. Masters' Degree

5. Others (please specify)  \_\_\_\_\_

104. What is your education major for your highest level of education?

.....

To Enumerator: Please explain to the respondent that you are going to ask the respondent's name, phone number, and email address for purposes of your supervisors calling back just in case you forget to ask some questions, or in case you later become unsure whether you have accurately recorded the respondent's answers.

Contact Information			
1	Name:	2. Phone:	3. Email:



**APPENDIX 2**  
**SURVEY OF GOVERNMENT OFFICIALS IN UGANDA, 2016**  
**QUESTIONNAIRE FOR DEPARTMENT MANAGERS**

QUESTIONNAIRE ID: \_\_\_\_\_ DATE: \_\_\_\_/

\_\_\_\_\_/\_\_\_\_\_/ \_\_\_\_\_ NUMERATOR'S NAME: \_\_\_\_\_

DATA-CAPTURE STATUS: \_\_\_\_\_

<b>1QE ID:</b>					
<b>START</b>	<b>HR</b>	<b>MIN</b>	<b>END</b>	<b>HR</b>	<b>MIN</b>

**TO ENUMERATOR:**

- Before proceeding to the survey questions, please explain the objective of the survey clearly to the respondent. The respondent should also be convinced that the information obtained is private, and that we will not reveal the respondent's name, organization name, or any other identifying information to a third party.
- Before starting an interview with the respondent, please tell the respondent that the interview will touch on some sensitive issues, and try to conduct the interview in a place where the respondent can talk freely without being overheard.

**TO SURVEY RESPONDENT:**

- This survey is part of a research project of the National Graduate Institute for Policy Studies (GRIPS) in Japan, which is supported by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) under the Program for Leading Graduate Schools Project. The objective of this study is to explore steps toward a more productive and comfortable work environment in public offices while at the same time ensuring timely and effective public service delivery in developing countries.
- Your responses are kept confidential and anonymous. We promise that any information collected through the interviews with you will be used exclusively for the academic research purpose. When we report the results of our research, we will show only the averages, variances, and other aggregate statistics of the collected data and not any individual level data. It is impossible to infer from these aggregate statistics what your answer to any question is.
- Your kind cooperation will be highly appreciated

RESPONDENT' S INFORMATION

2. ...

1. How many times have you received job related training in the last five years? .....
2. On average, how useful were the trainings? 1. Not at all useful  2. Somehow useful  3. Neither/Nor useful  4. Useful  5. Very useful
3. Prior to joining this department, where else were you employed? Was it in a government institution, a private entity or in a Non-governmental organization? Please choose all that apply. 1. No former employment 2. Government  3. Private  4. NGO  5. Others [If No, skip to No. 5]

4. In total how many years did you work in each of the previous sector(s) you have mentioned?

Sector	Number of Years
Government	
Private	
NGO	
Other: _____	

5. With reference to June 2016, how long have you served on the current job?:  
 \_\_\_\_\_years

OFFICE CHARACTERISTICS

6. How many staff are currently employed in this department? .....  
 6b) Of these, how many are officers? ..... 6c) How many are support staff?  
 .....
7. a) How old is the youngest officer in this department? .....  
 b) How old is the eldest officer in this department?.....
8. From your schedule of duties, how would you rate the clarity of your job description on a score of 1 to 5, where 5 is very clear and 1 is very unclear?  
 0. I have no schedule of duties 1. Very unclear  2. Not Clear  3. Neutral   
 4. Clear  5. Very clear

9. How often do you work in line with your schedule of duties? [Read out options]  
 1. Don't know  2. Never  3. Sometimes  4. Most of the time  5. All the time
10. In your opinion, how well do you feel your level of training is matched with your schedule of duties?  
 1. Not at all Matched  2. Somewhat mismatched  3. Neither matched nor mismatched  4. Somewhat well matched  5. Well matched
11. [Don't Ask] Office lay out can affect both communication and coordination practices in the office. Enumerator observe and mark whether office is:  
 1. Closed office-plan with closed door  2. Closed office-plan with open door   
 3. Open-plan office
12. What is your opinion about the physical layout (set up) of your office in relation to coordinating activities in the department?  
 1. Poor  2. Average  3. Good  4. Very Good  5. Excellent
13. With respect to your current employment, have you ever experienced a feeling of being underutilized?  
 1. Yes  2. No
14. In your opinion, how well do you feel utilized in your current job position?  
 1. Very underutilized  2. Relatively underutilized  3. Neither underutilized nor utilized  4. Relatively utilized  5. Well Utilized
15. [If feels under-utilized]. In your opinion, what is the main cause of the under-utilization? [accept up to 3 reasons]  
 1<sup>st</sup> reason: .....  
 2<sup>nd</sup> reason: .....  
 3<sup>rd</sup> reason: .....
16. How do you rate the quality of work performed by your officers in the department?  
 1. Very poor  2. Poor  3. Fair  4. Good  5. Very good
17. Over the last 2 years, how do you rate your department in terms of improvement in productivity? 1. I don't know  2. No improvement  3. Slightly improved  4. Improved  5. Highly improved

18. How do you rate your department in regards to providing fair and equitable treatment for employees?  
1. Very poor  2. Poor  3. Fair  4. Good  5. Very good
19. How do you rate the effectiveness of performance appraisals in regard to improving performance in this department? 1. Very ineffective  2. Not effective   
3. Somewhat effective  4. Effective  5. Very effective

### COORDINATION GAME

20. What proportion of officers in this department is knowledgeable about performance targets set by the department? Is it .....? 1. I don't know  2. All do not Know  3. A few Know  4. Majority Know  5. All know
21. In your opinion, what proportion of officers in this department show desire to achieve the set department targets? 1. I don't know  2. None desires  3. A few desire  4. The majority desire  5. All desire
22. In the course of implementing your schedule of duties, how often do you feel uncertain of the best way to handle certain activities?  
1. I don't know  2. Never  3. A few times  4. Most of the time  5. Always
23. Again, in the course of implementing your schedule of duties, how often do you consult? 1. I don't know  2. Never  3. A few times  4. Most of the time  5. All the time
24. How often do you get to know or to be updated on the outcome of the assignments you handle? 1. I don't know  2. Never sure  3. A few times  4. Most of the time  5. Always sure
25. In your opinion, how interactive are officers in this department with regards to executing assignments? Are they ..... 1. Highly individualistic  2. Somewhat individualistic  3. Neither/Nor interactive  4. Somewhat Highly interactive  5. Relatively interactive
26. To what extent do you consider your officers' work related actions or behavior when making decisions concerning the department? 1. Never  2. To limited extent  3. To some extent  4. To a good extent  5. Great extent

27. In your opinion, to what extent do work-related actions of officers in this department affect your performance? 1. I don't know  2. No effect at all  3. Affects to a limited extent  4. To a moderate extent  5. To a large extent
28. What proportion of officers in this department do you feel are clear about the benefits associated with achieving the department's set targets? Is it .....
1. I don't know  2. Not clear to all  3. Clear to a few  4. Clear to the majority  5. Clear to everyone

COORDINATION FAILURE

29. In your opinion, how much effort do you feel this department invests in conforming to the set institutional rules? Is it ..... [read out options] 1. I don't know  2. No effort at all  3. A little effort  4. Quite an effort  5. A lot of effort  .
30. To what extent does this department enforce penalties to officers who do not maintain the required performance standards? Is it ..... [Read out options] 1. No penalties  2. Not enforced at all  3. To little extent  4. To some extent  5. To great extent  .
31. In your opinion, how adequate is the remuneration (i.e. both monetary and non-monetary) paid for the work you do? Is it ..... [read out options]
1. Not adequate  2. Relatively inadequate  3. Fairly adequate  4. Relatively Adequate  5. Adequate
32. [If Not adequate] What motivates you to work? [record up to 3 responses]
- 1<sup>st</sup> reason: .....
- 2<sup>nd</sup> reason: .....
- 3<sup>rd</sup> reason: .....
33. In your opinion, to what extent are officers in this department free to air out their views with regards to office operations? 1. Not free at all  2. Somewhat not free  3. Neither/nor free  4. Somewhat free  5. Very free
34. How do you rate the level of feedback mechanism in your office?
1. Very poor  2. Poor  3. Fair  4. Good  5. Very Good
35. In your opinion, what proportion of officers in this department would forego a private cash business transaction to attend to office work during office hours? 1. I don't know  2. All not forego  3. Few not forego  4. Few forego  5. All forego .

36. Does this department experience any form of inefficient practices such as poor time management, absenteeism that may affect performance?  
 1. Yes  2. No
37. [If Yes] Am going to read to you a list of some inefficient practices common in offices. For each inefficient practice, please tell me whether the practice affects your personal performance or the performance of your officers or both. (Read each inefficient practice)

Inefficient practice	Affects manager	Affects officers	Affects both	Affects None
Poor time management	1	2	3	9
No incentive for hard work	1	2	3	9
Poor filing	1	2	3	9
Political interference	1	2	3	9
Do not follow work plans	1	2	3	9
Absenteeism	1	2	3	9
Poor communication	1	2	3	9
Poor leadership	1	2	3	9
Any other? (Specify)				

38. Which of the above listed inefficient practice is most common in this department?

Inefficient practice	Most common
Poor time management	1
No incentive for hard work	2
Poor filing	3
Political interference	4
Do not follow work plans	5
Absenteeism	6
Poor communication	7
Poor leadership	8
Any other? (Specify)	

Communication

39. How do you rate the clarity of information received by your office in regards to containing the exact required action? 1. Very unclear  2. Unclear  3. Neither/Nor clear  4. Clear  5. Very clear

40. How often do you hold work-related interaction with the technical staff in this department, especially those that you are mostly in contact with? Would you say .....
- [Read out options] 1. Don't know  2. More than a week  3. At least once a week  4. Once a day  5. More than once a day
41. How often do you hold work-related interaction with the technical staff in this department, especially those that least interact with? Would you say .....? [Read out options] 1. Don't know  2. More than a week  3. At least once a week  4. Once a day  5. More than once a day
42. How satisfied are you with the status of information sharing in your department?
1. Very dissatisfied  2. Dissatisfied  3. Neither/Nor satisfied  4. Satisfied  5. Very satisfied
43. How often does your department hold formal staff meetings?
1. Daily  2. Weekly  3. Monthly  4. Quarterly  5. Never
44. How effective are formal meetings in this department in regards to implementation of what has been agreed upon?
1. Not effective  2. Not so effective  3. Fair  4. Effective  5. Very effective
45. In your opinion, how is the communication ability of officers in this department with respect to conveying clear messages?
1. Very Poor  2. Poor  3. Neither/Nor good  4. Good  5. Very good

Leadership

46. Have you ever experienced a scenario where the majority of the officers do not understand technical issues pertaining to work in the department?
1. Yes  2. No
47. [If Yes] How often do you ever experience this scenario?
1. Never  2. A few times  3. Most of the time  4. All the time .
48. What is the best way you would handle a situation where some officers in this department do not understand some technical issues pertaining to work in the department? [accept up to 2 responses]
- 1<sup>st</sup> response: .....
- 2<sup>nd</sup> response: .....

49. Suppose you expect an officer to consult you regarding a work related issue but they don't, how best would you handle that situation? [accept up to 2 responses]  
 1<sup>st</sup> response: .....  
 2<sup>nd</sup> response: .....
50. How do you rate the response by officers in this department when you instruct them to do something?  
 1. Very low  2. Relatively low  3. Moderate  4. Relatively high  5. Very high
51. From your experience working in this department, what are the approaches mostly used to ensure information sharing? [accept up to 2 responses]  
 1<sup>st</sup> response: .....  
 2<sup>nd</sup> response: .....

52. In your opinion, how best do staff in this department conform to the ethical code of conduct? I don't know  2. Do not conform  3. Relatively conform  4. Conform  5. Highly conform

53. From your experience working in this department, how would you rate the relative importance of each of the following aspects to improving the credibility of department managers? Is it ..... [read out options]

	Not important	Important	Most important
Communication	1	2	3
Conformity to rules	1	2	3
Ability to reward/penalize	1	2	3
Providing strategic direction	1	2	3
Fair and equitable treatment	1	2	3
Any other aspect?	1	2	3

54. Again, from your experience working in this department, how do you rate yourself under each of the following issues with regards to improving your credibility? Would you say .....? [read out options]

	Not well	Well	Very well
Communication	1	2	3
Conformity to rules	1	2	3
Ability to reward/penalize	1	2	3
Providing strategic direction	1	2	3
Fair and equitable treatment	1	2	3



Any other aspect?	1	2	3
-------------------	---	---	---

### Incentives

55. On a scale of 1 to 5, where 1 is very poor and 5 is very well, how well does this department reward high performing staff? 0. Does not reward  1. Very poor  2. Poor  3. Neither/Nor poor  4. Well  5. Very well
56. To what extent is this department likely to sanction poor performers?  
1. Does not sanction  2. Very unlikely  3. Unlikely  4. Likely  5. Very likely
57. Based on the understanding that the final decision for staff promotion is not made within this department, to what extent do promotions appear to be based on performance? 1. Not at all  2. To some extent  3. To a moderate extent  4. To a great extent  5. Don't know
58. To what extent does your office promote job-related talents such as speech writing, report writing, presentation, among others?  
1. Does not promote talent  2. To a limited extent  3. To a moderate extent  4. Promotes talent  5. To a great extent
59. To what extent would your office try to retain an outstanding officer if she or he wanted to resign? 1. Not at all  2. To some extent  3. To a moderate extent  4. To a great extent  5. Don't know
60. To what extent does the incentive structure induce sabotage among staff in this department? 1. Does not induce sabotage  2. To a limited extent  3. To a moderate extent  4. To a great extent
61. To what extent does the incentive structure encourage favoritism and influence peddling among staff in this department?  
1. Does not encourage  2. Encourages to a limited extent  3. Encourages to a moderate extent  4. Encourages to a great extent

### Time for Meetings

62. Regarding formal departmental meetings, do you expect all officers in this department to keep time for the meetings?
1. Expect all not to keep time
  2. Expect some not to keep time
  3. Don't know
  4. Expect some to keep time
  5. Expect all to keep time
63. How often do officers in this department keep time for meetings?
1. They never keep time
  2. Rarely keep time
  3. Don't know
  4. Keep time most of the time
  5. Keep time all the time
64. How do you invite officers for staff meetings?
1. Follow a programmed structure with a known date, venue and time
  2. Communication is made whenever there is a meeting
  3. Both 1 and 2 are simultaneously used
  4. Other .....
65. On the occasions when you as the manager come late for a staff meeting, how many officers in this department do keep time for the same meeting?
0. I never come late for staff meetings
  1. None will keep time
  2. A few will keep time
  3. Don't know
  4. Majority will keep time
  5. All will keep time
66. If officers in this department were certain that you will keep time for the staff meeting, do you think they will all keep time?
1. None will keep time
  2. A few will keep time
  3. Don't know
  4. Majority will keep time
  5. All will keep time
67. If you as a manager persistently keep time for staff meetings and the officers in the department continuously come late, how will this behavior affect your time keeping?
1. Will greatly reduce
  2. Will reduce
  3. No effect
  4. Will increase
  5. Will greatly increase
68. If some of the officers in this department were not sure whether their colleagues would keep time for the staff meeting, do you think they will all keep time?
1. None will keep time
  2. A few will keep time
  3. Don't know
  4. Majority will keep time
  5. All will keep time
69. Have you ever experienced a situation where some officer's late coming influenced the time keeping levels of other officers?
1. Yes
  2. No

70. [If Yes] How often did this happen in the last year?

1. Happened many times  2. Happened several times  3. Happened a few times   
 0. Don't know

71. [If Yes] How did you handle the situation? (Can probe with: discussed it in subsequent meeting, caution, punishments, etc.)

	code
discussed it in subsequent meeting	1
caution	2
punishments	3
Any other? (Specify)	

72. What was the impact of your actions mentioned above?

Positive outcomes	code
Improved time keeping	1
Improved notifications in case of late coming	2
Improved notifications in case of absenteeism	3
Increased enquiries about the purpose of the meeting	
Any other? (Specify)	
Negative outcomes	
Increased late coming	6
Increased absenteeism from staff meeting	7
Loss of interest in staff meetings	8
Any other? (Specify)	

Report writing

73. How often do you produce departmental reports? (Multiple answers)

	code
Weekly	1
Monthly	2
Quarterly	3
Annually	4
Any other? (Specify)	

74. How would you rate the quality of the reports officers in this department produce?

1. Very poor  2. Poor  3. Fair  4. Good  5. Very good

75. Do you expect all officers in this department to participate in the production of the departmental report? 1. Expect all not to participate  2. Expect a few not to participate  3. I don't know  4. Expect majority to participate  5. Expect all to participate

76. How do you rate their participation level in the production of the departmental report?  
1. Very low  2. Low participation  3. Average  4. High participation   
5. Very high

77. Do they submit their input to the report without being reminded?  
1. Yes  2. No

78. How do you rate their participation level when you send them reminders?  
1. Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

79. How about their participation level without reminders?  
1. Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

80. Do you provide a report layout/template that the officers should follow?  
1. Yes  2. No

81. What is the participation level when you provide a report layout/template?  
1. Very low  2. Relatively low  3. No effect  4. Relatively High  5. Very high

82. How would you rate the quality of the reports your officers write with your involvement? 1. Very poor  2. Poor  3. Fair  4. Good  5. Very good

83. How often do they get your feedback when they submit reports?  
1. I don't know  2. Never  3. A few times  4. Most of the time  5. All the time

84. What is the impact of feedback on the level of participation?

Positive outcomes	code
Increased participation	1
Increased interest in report writing	2
Timely submission of reports	3
Improved quality of the report	
Any other? (Specify)	
Negative outcomes	
Same or lower participation	6

Reduced interest in the report writing	7
Same or late submission of reports	8
Reduced quality of the report	9
Any other? (Specify)	

EFFORT LEVEL

85. Knowing that over the duration of the 8-hour shift, there are bits of this time that employees inevitably use for personal matters. Excluding all these, how many hours in a day do you exclusively put to work in this department? {Enter number}

.....

86. On average, how much effort do you feel officers in this department commit to actual work in a day in this department? 1. Very poor effort  2. Poor effort  3. Fair effort  4. Good effort  5. Very good effort

87. What is the maximum number of hours put to actual work by an officer you consider poor-performing in this department? [Enter number] .....

88. What is the maximum number of hours put to actual work by an officer you consider hard-working in this department? [Enter number]? .....

89. From your experience, to what extent does the behavior of the officer who puts the least number of hours affect the number of hours put into actual work by his/her colleagues? 1. I don't know  2. Doesn't affect  3. To a limited extent  4. To a moderate extent  5. To a great extent

90. To what extent do you think talking to encourage an officer you consider a poor-performer would make him/her improve his/her performance? 1. I don't know  2. Doesn't affect  3. To a limited extent  4. To a moderate extent  5. To a great extent

91. To what extent do you think writing to encourage an officer you consider a poor-performer would make him/her improve his/her performance? 1. I don't know  2. Doesn't affect  3. To a limited extent  4. To a moderate extent  5. To a great extent

92. From your experience in encouraging poor performing officers to improve, which of these two approaches mentioned above (i.e. talking or writing) improves performance the most?

- 1. Writing to the officer
- 2. Talking to the officer
- 3. Can't choose, both
- 4. Other .....

93. When you send a message to officers in this department, do they interpret it in the same way? 1. I don't know

- 2. All have different interpretations
- 3. A few have similar interpretation
- 4. The majority have similar interpretation
- 5. All have similar interpretation

94. How often do they come back to you for clarity? 1. I don't know

- 2. Never
- 3. A few times
- 4. Most of the time
- 5. All the time

95. Have you ever induced a poorly-performing officer to a hard working officer?

- 1. Yes
- 2. No

96. If yes, how did you do it? [Accept up to 3 responses]

.....  
.....  
.....

97. If an incentive to induce more effort put to work was introduced in this department, do you think officers would increase their level of effort?

- 1. I don't know
- 2. They will not increase
- 3. A few will increase
- 4. Majority will increase
- 5. All will increase

98. What type of incentive do you think would yield more work-effort in this department? [Accept up to 3 responses]

.....  
.....  
.....

**RESPONDENT INFORMATION**

99. Age (Years) as of June 2016: \_\_\_\_\_

100. Gender 1. Female  2. Male

101. Years of formal schooling (excluding short-term training of less than 1 year) \_\_\_\_\_

102. Highest Level of education qualification:

1. Certificate  2. Diploma  3. Bachelor  4. Masters' Degree

5. Others (please specify)  \_\_\_\_\_

103. What is your education major for your highest level of education?

.....

To Enumerator: Please explain to the respondent that you are going to ask the respondent's name, phone number, and email address for purposes of your supervisors calling back just in case you forget to ask some questions, or in case you later become unsure whether you have accurately recorded the respondent's answers.

	Contact Information		
1	Name:	2. Phone:	3. Email:

### APPENDIX 3

#### DATA APPENDIX

Table No.	Variables	Question No.
4.1	Experience of inefficient practices	37
	Poor time keeping	38
	No incentive for hard work	38
	Poor filing	38
	Political interference	38
	Poor sequencing of work	38
	Poor communication	38
	Poor leadership	38
	Poor delegation	38
	Frequency of departmental meetings	44
4.2	Age	99
	Gender	100
	Rank	101
	Highest level of education	103
	Education major	104
	Experience	5
4.3	No. of on job training in the last 5 years	1
	Clear job description	8
	Works in line with job description	9
	Office lay out	11
	Feeling of under utilization	13
	Knowledge of the set targets	20
	Desire to achieve the set targets	21
	Foregoing a private cash business transaction to attend to office work during office time	35
4.5	Level of interaction	25
	Consideration of others when making decisions concerning work	26
	Colleagues work related actions affecting respondent's performance	27
	Clarity of benefits associated with achieving the set targets	28
	Effort to conformity to institutional rules	29
	Effort level put to actual work in a day	86
	Time keeping level for meetings	64
	Participation level in report writing	75
	Quality of work	16
	Productivity improvement	17
Fair and equitable treatment	18	



4.7	Expected level of time keeping	63
	Actual level of time keeping	64
	Majority keep time when manager is late	65
	Majority keep time if certain that manager keeps time	66
	Majority keep time if uncertain that colleagues would keep time	67
	Late coming influenced by colleagues' poor time keeping behavior	68
<hr/>		
4.8	Quarterly reports	72
	Expected level of participation	74
	Actual level of participation	75
	Participation with reminders	77
	Participation without reminders	78
	Participation with feedback	83
	Participation with manager's involvement	80
	Participation with a template	84
<hr/>		
5.1	Clarity of information	40
	Level of interaction	25
	Freedom of expression	33
	Information sharing	43
	Feedback	34
	Similar message interpretation	93
	High responsiveness	51
	Communication ability	46
	Conformity to ethical code	53
	Steers direction	49
	Induces good performance	95
	Level of failure to understand instructions	47
	Credibility	55
	Rewards high performance well	56
	Sanctions poor performers	57
	Promotion based on performance	58
	Retains outstanding performers	60
	Promotion of job related talent	59
<hr/>		
5.2	Communication = Level of interaction + freedom of expression + information sharing + feedback + similar message interpretation + clarity of information.	
	Leadership = conformity to ethical code + steers direction + induce good performance + communication ability + credibility	
	Incentives= Rewarding high performance + sanctioning poor performance + promotion based on performance + retains outstanding performers + promotion of job related talent	
<hr/>		

5.11 Level of coordination = time keeping level + participation level in report writing + effort level put to actual work + quality of work+ productivity improvement + fair and equitable treatment of officers

Fig. 3 Management level is the aggregate of communication, leadership and incentives

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**APPENDIX 4**  
**Comprehensive descriptive statics**

<b>Characteristics</b>	<b>Combined Mean</b>	<b>Officers (1)</b>	<b>Managers (2)</b>	<b>Difference (1) – (2)</b>	<b>t-stats</b>
<b>Individual Characteristics</b>					
Age	42.103	40.011 (8.117)	48.647 (7.759)	-8.636***	8.629
Female	0.294	0.313 (0.465)	0.227 (0.421)	0.086	1.554
Officer (entry level)	0.244	0.316 (0.466)	0	0.316***	6.417
Years of formal schooling	18.58	18.37 (2.114)	19.26 (2.109)	-0.889***	-3.463
Masters as highest level of education	0.605	0.535 (0.368)	0.841 (0.499)	0.306***	-5.324
Social sciences as education major	0.392	0.441 (0.497)	0.227 (0.421)	0.214***	3.661
Experience	7.152	6.498 (5.420)	9.434 (8.259)	-2.936***	-3.662
Experience outside government	0.361	0.377 (0.485)	0.307 (0.464)	0.070	1.205
<b>Office Characteristics</b>					
No. of on job training in the last 5 years	3.334	3.147 (2.629)	4.027 (3.369)	-0.879**	-2.412
Usefulness of training	0.766	0.768 (0.423)	0.761 (0.429)	0.006	0.123
Clear job description	0.719	0.697 (0.460)	0.795 (0.406)	-0.098*	-1.809
Works in line with job description	0.673	0.653 (0.477)	0.739 (0.442)	0.085	-1.501
Matched training with schedule	0.847	0.828 (0.497)	0.909 (0.424)	-0.081*	-1.852
Closed door office layout	0.413	0.428 (0.496)	0.364 (0.484)	0.413	1.069
Good office layout	0.712	0.714 (0.453)	0.705 (0.454)	0.009	0.168
Feeling of under utilization	0.351	0.378 (0.485)	0.261 (0.442)	0.116**	2.004

Level of utilization	0.800	0.781 (0.414)	0.863 (0.351)	-0.082**	-1.701
Knowledge of the set targets	0.728	0.691 (0.463)	0.851 (0.359)	-0.159***	-2.951
Desire to achieve the set targets	0.662	0.637 (0.482)	0.747 (0.437)	-0.110*	-1.914
Colleagues foregoing a private cash business transaction to attend to office work during office time	0.459	0.481 (0.500)	0.451 (0.499)	0.030	0.533
Self-foregoing a private cash business transaction to attend to office work during office time		0.572 (0.496)	0		
<b>Reasons for underutilization from the 35%</b>					
Unchallenging work	0.081	0.094 (0.293)	0.034 (0.183)	0.081*	1.826
Poor facilitation	0.003	0.000	0.114 (0.114)	-0.011*	-1.843
Little work	0.047	0.057 (0.233)	0.011 (0.107)	0.046*	1.793
<b>Performance Indicators</b>					
Quality of work	0.810	0.815 (0.389)	0.795 (0.405)	0.019	0.406
Productivity improvement	0.623	0.612 (0.428)	0.659 (0.477)	-0.047	-0.789
Fair and equitable treatment of staff	0.675	0.657 (0.476)	0.739 (0.441)	-0.082	-1.444
Effective appraisals	0.319	0.313 (0.465)	0.341 (0.477)	-0.028	-0.489
<b>Coordination Games indicators</b>					
Task uncertainty	0.112	0.125 (0.332)	0.069 (0.255)	0.056	1.462
Frequency of consultation	0.512	0.488 (0.501)	0.591 (0.494)	-0.103*	-1.695
Level of interaction	0.792	0.795 (0.405)	0.784 (0.414)	0.011	0.213
Consideration of others when making decisions concerning work	0.647	0.596 (0.492)	0.818 (0.388)	-0.222***	-3.896

Colleagues work related actions affecting respondent's performance	0.792	0.795 (0.405)	0.784 (0.414)	0.011	0.213
Clarity of benefits associated with achieving the set targets	0.677	0.652 (0.477)	0.756 (0.432)	-0.103*	-1.796
<b>Coordination failure indicators</b>					
Effort to conformity to institutional rules	0.485	0.402 (0.491)	0.699 (0.462)	-0.297***	-4.751
Enforcing penalties	0.317	0.289 (0.454)	0.409 (0.494)	-0.119**	-2.124
Adequate remuneration	0.216	0.222 (0.416)	0.193 (0.397)	0.029	0.581
Experience of inefficient practices	0.735	0.700 (0.459)	0.852 (0.357)	-0.152***	-2.859
<b>Motives to work</b>					
Desire to serve the nation / prestige	0.151	0.205 (0.405)	0.216 (0.414)	-0.011	-0.213
Exposure and Networking	0.174	0.162 (0.369)	0.216 (0.414)	-0.054	-1.179
Personal drive to achieve	0.249	0.232 (0.423)	0.307 (0.464)	-0.074	-1.419
Job security	0.257	0.249 (0.433)	0.284 (0.454)	-0.035	-0.657
Relaxed working environment	0.140	0.114 (0.319)	0.227 (0.421)	-0.113***	-2.695
<b>Communication</b>					
Clarity of information	0.771	0.791 (0.407)	0.705 (0.459)	0.087*	1.703
Frequency of most interaction	0.561	0.629 (0.484)	0.333 (0.474)	0.296***	5.021
Level of interaction	0.792	0.795 (0.405)	0.784 (0.414)	0.011	0.213
Freedom of expression	0.579	0.492 (0.501)	0.875 (0.333)	-0.383***	-6.752
Feedback	0.634	0.623 (0.485)	0.670 (0.473)	-0.048	-0.812
Information sharing	0.517	0.603 (0.490)	0.227 (0.421)	0.375***	6.506
<b>Approaches to information sharing</b>					
Social media	0.244	0.242	0.250	-0.008	-0.145

Meetings	0.340	(0.429) 0.319	(0.435) 0.409	-0.089	-1.553
Routing files	0.179	(0.467) 0.175	(0.494) 0.193	-0.018	-0.388
Personal interaction	0.081	(0.381) 0.088	(0.397) 0.057	0.031	0.929
Notice boards	0.070	(0.283) 0.071	(0.233) 0.068	0.003	0.081
		(0.257)	(0.254)		
<b>Frequency of departmental meetings</b>					
Daily meetings	0.059	0.020	0.193	-0.173***	6.301
Weekly meetings	0.272	(0.141) 0.333	(0.397) 0.068	0.265***	5.053
Monthly meetings	0.389	(0.472) 0.421	(0.254) 0.284	0.137**	2.321
Quarterly meetings	0.265	(0.495) 0.209	(0.454) 0.455	-0.246***	-4.708
Effective departmental meetings	0.673	(0.407) 0.643	(0.501) 0.773	-0.129**	-2.286
		(0.479)	(0.421)		
<b>Leadership Indicators</b>					
Communication ability	0.392	0.411	0.329	0.081	1.371
		(0.493)	(0.473)		
Experience of failure to understand technical issues	0.410	0.438	0.318	0.410**	2.007
		(0.497)	(0.468)		
Responsiveness of officers	0.668	0.670	0.659	0.011	0.191
		(0.471)	(0.477)		
Similar message interpretation	0.604	0.574	0.707	-0.133**	-2.177
		(0.495)	(0.458)		
Conformity to ethical code of conduct	0.743	0.727	0.795	-0.068	-1.279
		(0.446)	(0.406)		
Return for clarity	0.391	0.388	0.402	-0.015	-0.245
		(0.488)	(0.493)		
Credibility	0.712	0.673	0.841	-0.168***	-3.076
		(0.469)	(0.368)		
Steers direction	0.584	0.562	0.659	-0.097	-1.619
		(0.497)	(0.477)		
Inducing good performance	0.442	0.370	0.682	-0.311***	-5.343
		(0.484)	(0.468)		

**Approaches to inducing performance**

Involvement	0.055	0.047 (0.212)	0.079 (0.272)	-0.032***	-5.343
Reward	0.062	0.054 (0.226)	0.090 (0.289)	-0.037	-1.262
Mentorship	0.088	0.054 (0.226)	0.204 (0.406)	-0.151***	-4.477
Attachment	0.044	0.034 (0.181)	0.079 (0.272)	-0.046*	-1.843
Warning	0.091	0.091 (0.017)	0.091 (0.031)	0.000	0.000

**Incentives Indicators**

Rewards high performance well	0.434	0.390 (0.489)	0.579 (0.496)	-0.189***	-3.175
Sanctions poor performers	0.519	0.545 (0.499)	0.432 (0.498)	0.114*	1.878
Promotion based on performance	0.278	0.279 (0.449)	0.273 (0.448)	0.007	0.124
Retains outstanding performers	0.239	0.273 (0.446)	0.125 (0.333)	0.148***	2.877
Promotion of job related talent	0.242	0.199 (0.399)	0.386 (0.489)	-0.188***	-3.667
Incentive induces sabotage	0.145	0.145 (0.352)	0.148 (0.357)	-0.003	-0.069
Incentive encourages favoritism	0.332	0.202 (0.402)	0.773 (0.421)	-0.571	-11.563
Incentive increasing effort level	0.812	0.800 (0.401)	0.851 (0.359)	-0.051	-1.053
Remuneration	0.216	0.222 (0.416)	0.193 (0.397)	0.029	0.581

**Type of incentive that increases effort**

Monetary incentive	0.522	0.505 (0.500)	0.579 (0.496)	-0.074	-1.228
Good facilitation	0.129	0.121 (0.327)	0.159 (0.368)	-0.037	-0.927
Recognition	0.514	0.515 (0.500)	0.511 (0.503)	0.004	0.062
Inclusiveness	0.143	0.151 (0.359)	0.114 (0.319)	0.038	0.891
Penalty	0.096	0.088 (0.283)	0.125 (0.333)	-0.037	-1.046

<b>Time Keeping for meetings</b>					
Expected level of time keeping	0.634	0.597 (0.504)	0.760 (0.446)	-0.163***	-2.824
Actual level of time keeping	0.623	0.586 (0.493)	0.750 (0.435)	-0.164***	-2.813
Majority keep time when manager is late	0.452	0.431 (0.496)	0.523 (0.502)	-0.092	-1.519
Majority keep time if certain that manager keeps time	0.836	0.832 (0.375)	0.852 (0.357)	-0.021	-0.458
Majority keep time if uncertain that colleagues would keep time	0.166	0.141 (0.349)	0.250 (0.435)	-0.109**	-2.415
Late coming influenced by colleagues' poor time keeping behavior	0.626	0.626 (0.485)	0.625 (0.487)	0.001	0.021
<b>Remedying the time influencing situation</b>					
Discussed in subsequent meeting	0.431	0.438 (0.497)	0.409 (0.494)	0.029	0.475
Caution	0.156	0.152 (0.359)	0.170 (0.378)	-0.019	-0.429
Punishment	0.013	0.010 (0.100)	0.023 (0.149)	-0.013	-0.918
Refer to higher authorities	0.029	0.030 (0.172)	0.023 (0.149)	0.008	0.374
Ignored	0.01	0.010 (0.100)	0.011 (0.107)	-0.001	-0.102
<b>Report writing</b>					
Quarterly reports	0.571	0.556 (0.498)	0.625 (0.487)	-0.069	-1.155
Good quality of reports	0.849	0.855 (0.352)	0.829 (0.378)	0.025	0.590
Expected level of participation	0.748	0.767 (0.423)	0.682 (0.468)	0.086	1.631
Actual level of Participation	0.514	0.495 (0.501)	0.579 (0.496)	-0.085	-1.395
Participation with reminders	0.818	0.811 (0.392)	0.841 (0.368)	-0.029	-0.628
Participation without reminders	0.397	0.397 (0.490)	0.398 (0.492)	-0.001	-0.007



Participation with feedback	0.701	0.687 (0.465)	0.75 (0.435)	-0.063	-1.135
Participation with manager's involvement		0.875 (0.331)			
Participation level with template	0.886	0.926 (0.262)	0.750 (0.435)	0.176***	4.672
Good quality of reports with manager's involvement	0.719	0.667 (0.472)	0.898 (0.305)	-0.231***	-4.329
Frequency of feedback on reports	0.278	0.098 (0.297)	0.886 (0.319)	-0.789***	-21.487
<b>Effort level put to work</b>					
> 7 Hours exclusively put to work in a day	0.603	0.579 (0.495)	0.682 (0.468)	-0.103*	-1.731
Maximum hours by considered poor performer	4.154	4.084 (1.705)	4.386 (2.117)	-0.301	-1.329
Maximum hours by considered hard worker	8.029	8.035 (1.545)	8.012 (1.880)	0.023	0.116
Good effort put to actual work in a day	0.782	0.771 (0.421)	0.818 (0.388)	-0.047	-0.939
Influence of least hours on colleagues	0.479	0.495 (0.501)	0.432 (0.498)	0.063	1.031
Talking to encourage performance	0.765	0.742 (0.438)	0.841 (0.368)	-0.099*	-1.917
Writing to encourage performance	0.626	0.620 (0.486)	0.644 (0.482)	-0.023	-0.395
Number of observations (385)		297	88		