



# BEHAVIORAL AMBIDEXTERITY: THE IMPACT OF INCENTIVE SCHEMES ON PRODUCTIVITY, MOTIVATION, AND PERFORMANCE OF EMPLOYEES IN COMMERCIAL BANKS

**MOHAMMAD FAISAL AHAMMAD, SANG MOOK LEE,  
MIKI MALUL, AND AMIR SHOHAM**

*Human resource management systems may serve as an antecedent that enables firms to develop a context for ambidexterity—an ability to pursue contradictory processes (exploitation versus exploration) within the same firm. The aim of this article is to examine the impact of motivation-enhancing HR practices on the productivity, motivation, and performance of commercial bank employees to promote and attain contextual ambidexterity within the organization. The theoretical model presented in this article shows how ex-ante incentives (incentives based on past performance) and ex-post incentives (incentives based on future performance) affect productivity, motivation, and performance of employees. The results are tested empirically by analyzing real quarterly data of commercial bank employees in Israel. The main results show that workers with relatively high abilities might take advantage of both ex-ante and ex-post incentives. In contrast, workers with relatively low ability are unable to take advantage of both incentive schemes. Our findings indicate that motivation-enhancing HR practices such as financial incentives significantly influence the productivity and performance of employees. Our study contributes to the ambidexterity literature by examining how motivation-enhancing human resource (HR) practices such as incentive schemes make employees feel the sense of stretch that is essential in building an ambidextrous organization. © 2015 Wiley Periodicals, Inc.*

*Keywords:* pay for performance, reward systems

Correspondence to: Amir Shoham, Fox School of Business, Temple University, Department of Finance, Alter Hall, 1801 Liacouras Walk, Philadelphia, Pennsylvania 19122, Phone: 215-204-7676, E-mail: amir.shoham@temple.edu

---

**Human Resource Management**, December 2015, Vol. 54, No. S1. Pp. S45–S62

© 2015 Wiley Periodicals, Inc.

Published online in Wiley Online Library (wileyonlinelibrary.com).

DOI:10.1002/hrm.21668

One of the critical features of a successful organization in the 21st century is organizational ambidexterity. Organizational ambidexterity can be defined as the capability to concurrently pursue both exploration and exploitation, and make changes resulting from the adoption of multiple, contradictory processes within the same firm (O'Reilly & Tushman, 2004). Gibson and Birkinshaw (2004) identified a behavioral model of ambidexterity, called contextual or behavioral ambidexterity, which has four elements: stretch, discipline, support, and trust. However, beyond these general features, little empirical research has been done to identify organizational systems that facilitate a behavioral view of ambidexterity (Lavie, Stettner, & Tushman, 2010; Simsek, 2009; Simsek, Heavey, Veiga, & Souder, 2009).

---

*HR practices within the motivation-enhancing domain must provide the compensation system that includes incentive pay and performance appraisal criteria, as well as processes that motivate employees to work toward certain goals.*

---

Recently, Patel, Messersmith, and Lepak (2012) attempted to address this gap by building on existing work about the behavioral perspective to examine the extent to which a human resource management system may serve as an antecedent that enables firms to develop a context for ambidexterity. They found that high-performance work systems were likely to emphasize alignment and adaptability via separate HR practices that work in concert to establish the context of stretch, discipline, support, and trust necessary in an ambidextrous organization (Ghoshal & Bartlett, 1994). However, Patel et al. (2012) did not directly measure the contextual elements of ambidextrous organization, and recommended that future researchers should investigate the relationships between particular HR practices and the contextual elements needed to produce organizational ambidexterity. Further, Patel et al. (2012) suggested that a detailed assessment of different high-performance HR practices, such as compensation or incentive schemes, was necessary to understand the mechanism linking high-performance HR practices to contextual or behavioral ambidexterity.

High-performance HR practices (Huselid, 1995; Takeuchi, Lepak, Wang, & Takeuchi, 2007) or high-involvement HR practices (Appelbaum, Bailey, Berg, & Kallerberg, 2000) contribute to a firm's performance by motivating employees to adopt desired behaviors that collectively contribute to the benefit of the organization (Huselid,

1995). High-involvement HR practices may be grouped into ability-enhancing, motivation-enhancing, and opportunity-enhancing domains (Prieto & Santana, 2012). HR practices within the motivation-enhancing domain must provide the compensation system that includes incentive pay and performance appraisal criteria, as well as processes that motivate employees to work toward certain goals.

The motivation-enhancing HR domain mostly includes compensation practices and performance appraisal procedures that might direct employees' actions toward the accomplishment of work objectives and lead employees to perceive their organizations as valuing their contributions (Subramony, 2009), which compel them to reciprocate by holding positive attitudes and engaging in favorable discretionary behaviors (Sun, Aryee, & Law, 2007). Compensation systems linking pay to performance and incentive plans may also support social climates by clearly communicating organizational expectations regarding expected employee behaviors. In addition, performance appraisals that have a developmental rather than a controlling focus will increase the perception of an organizational climate that is safe and nonjudgmental (Cabrera & Cabrera, 2005; Gagné, 2009).

HR practices are the primary methods to influence and shape the skills, attitudes, and behaviors of individuals to do their work and, hence, achieve organizational aims (Collins & Clark, 2003). Although it has been routinely assumed that HR practices represent a conduit for contextual ambidexterity (Kang & Snell, 2009), the actual mechanisms for contextual ambidexterity linking HR practices and performance has received limited research attention. More specifically, consistent with Patel et al. (2012), we argue that a thorough evaluation of different high-performance HR practices, such as incentive schemes, is essential to comprehend the mechanism linking high-performance HR practices to contextual ambidexterity. Therefore, researchers need to explore how motivation-enhancing HR practices such as different incentive schemes shape the employees' behaviors and productivity to contribute to an organization's contextual ambidexterity and to improved performance.

The aim of this article is to investigate the impact of both ex-ante incentives (incentives based on past performance) and ex-post incentives (incentives based on future performance) on the productivity, motivation, and performance of employees in an organization. Specifically, we examined how motivation-enhancing HR practices such as incentive schemes make employees feel the positive sense of stretch that is essential

in building an ambidextrous organization. In addition, we investigated how the behaviors of employees vary according to the abilities of the employees, especially in the context of contradictory financial incentives (e.g., ex-ante versus ex-post incentives).

Organizational ambidexterity is vital for service firms such as commercial banks that rely primarily on intangible assets and knowledge in providing a superior customer experience (Junni, Sarala, Taras, & Tarba, 2013). In particular, the banking industry, which is the setting for the present article, has witnessed fundamental changes and greater instability that heighten the importance of successfully attaining ambidexterity to increase the performance of subunits (Jansen, Simsek, & Cao, 2012). Because deregulation has intensified competition in this market, bank units are expected to constantly improve existing products while also reducing the cost of serving current customers and existing markets. Advances in information and communication technologies have enabled units to introduce process technologies that help them increase internal efficiency and improve productivity.

Our article is novel in that we first develop a theoretical framework that allows us to examine how the productivity, motivation, and performance of employees are influenced by HR practices within the motivation-enhancing domain. We argue that employees with high abilities take advantage of both the ex-ante incentive and the ex-post incentive by changing their productivity, while employees with low abilities do not have the option of taking advantage of these incentives. We then analyze our theoretical model using real data that allowed us to understand the impact of the different incentive schemes in the “real world.” The findings of our study suggest that a bank could implement an ex-post incentive scheme to motivate and enhance the performance of employees with high and medium abilities, which in turn can improve the financial performance of the organization. An ex-ante incentive scheme for high-ability employees might have an adverse impact on productivity. Employees with low ability do not have the tools to respond to this incentive scheme.

The rest of this article is organized as follows: The first section reviews the literature on organizational ambidexterity and contextual or behavioral ambidexterity. The second section presents the conceptual framework and related propositions, and the third describes the methodology employed in the study including the samples and measurement of key variables. The fourth section presents the findings and associated discussion of the results. Finally, the implications, conclusions,

limitations, and directions for future research are presented in the last section.

## Literature Review

### *Organizational Ambidexterity: Definition*

The use of the word *ambidexterity* in scholarly debate has risen rapidly (Birkinshaw & Gupta, 2013; Gulati & Puranam, 2009; Junni et al., 2013; O'Reilly, Harreld & Tushman, 2009; O'Reilly & Tushman, 2013; Raisch & Birkinshaw, 2008; Raisch, Birkinshaw, Probst, & Tushman, 2009) in multiple areas of research, including strategic management, innovation and technology management, organizational learning, and organizational behavior (Simsek, 2009). Most organizations use some form of strategic planning, and organizational ambidexterity is increasing as a popular approach to strategy (Chermack, Bodwell, & Glick, 2010, p. 150). The ideas and theoretical concepts from ambidexterity literature can be used to explore the issue related to business model innovation (Markides, 2013). Although the general meaning of ambidexterity is the ability to pursue two different paths simultaneously, there is no consistent definition (Cao, Gedajlovic, & Zhang, 2009; Gupta, Smith, & Shalley, 2006). The term refers variously to adaptability and alignment (Gibson & Birkinshaw, 2004), controllability and responsiveness (Graetz & Smith, 2005), innovation and efficiency (Sarkees & Hulland, 2009), and incremental and revolutionary change (O'Reilly & Tushman, 1996).

The major forms of ambidexterity—temporal (O'Reilly & Tushman, 1996), structural separation of units, overseen by senior management (Jansen, George, Bosch, & Volberda, 2008; Lubatkin, Simsek, Ling, & Veiga, 2006; O'Reilly and Tushman, 2004), and contextual (Gibson & Birkinshaw, 2004; Kang & Snell, 2009; Turner & Lee-Kelley, 2012)—are primarily understood at the organizational level. Organizational ambidexterity can be defined as the ability of an organization to simultaneously pursue both explorative (discontinuous) and exploitative (incremental) innovation (O'Reilly & Tushman, 2004). Exploration is related to search, experimentation, and variance increase, whereas exploitation increases productivity and efficiency through improved execution and variance reduction (March, 1991). There is limited empirical evidence in the literature about how exploitation and

---

*Organizational ambidexterity can be defined as the ability of an organization to simultaneously pursue both explorative (discontinuous) and exploitative (incremental) innovation.*

---

exploration are achieved in practice as reflected by O'Reilly and Tushman's (2011) observation, "what is needed is a greater insight into the specific micro-mechanisms required for a manager to implement and operate an ambidextrous strategy" (p. 8).

### *Organizational Ambidexterity and Performance*

Prior researchers have investigated the relationship between organizational ambidexterity and organizational performance. A number of researchers documented a positive association between organizational ambidexterity and sales growth (Caspin-Wagner, Ellis, & Tishler, 2012; Geerts, Blindenbach-Driessen, & Gemmel, 2010; Han & Celly, 2008) and subjective ratings of performance (Bierly & Daly, 2007; Burton, O'Reilly, & Bidwell, 2012; Cao et al., 2009; Markides & Charitou, 2004; Masini, Zollo, & Wassenhove, 2004; Schulze, Heinemann, & Abedin, 2008). Most of these researchers investigate the impact of ambidexterity at the individual, project, business unit, and firm level. While organizational ambidexterity may, under certain conditions, be inefficient and duplicative (e.g., Ebben & Johnson, 2005; Van Looy, Martens, & Debackere, 2005), the empirical evidence implies that under conditions of technological and market uncertainty, organizational ambidexterity usually has a positive impact on organizational performance (see Junni et al., 2013).

Several studies have pointed out the organization's environment as a possible moderator of organizational ambidexterity (e.g. Raisch et al., 2009; Simsek, 2009). For example, management of innovation could be particularly important for service firms that rely primarily on intangible assets and knowledge in providing a superior customer experience (Junni et al., 2013). In the context of professional service firms, Groysberg and Lee (2009) investigated the role of exploration and exploitation in the context of hiring employees. Therefore, prior research has proposed that the effects of organizational ambidexterity could be industry specific; this would mean it has more positive effects in dynamic environments (Simsek et al., 2009). Regarding industry effects, a meta-analysis by Junni et al. (2013) indicated a strong positive relationship between organizational ambidexterity and performance for organizations in the service industry, such as the banking industry.

### *Behavioral or Contextual Ambidexterity*

Contextual ambidexterity (Gibson & Birkinshaw, 2004) or harmonic ambidexterity (Simsek et al., 2009) considers exploration and exploitation as

complementary organizational activities, and organizational ambidexterity as a multidimensional construct consisting of simultaneous exploration and exploitation in a business unit. Essentially, contextual ambidexterity emphasizes the assimilation of exploration and exploitation within a particular business unit but allows for differentiated effort in both activities (Wang & Rafiq, 2012).

Kang and Snell (2009, p. 66) state that "contextual ambidexterity assumes that the ambidexterity of an organization as a whole derives from specific actions of individuals so that it is inextricably tied to a firm's efforts to manage human resources." Similarly, Gibson and Birkinshaw (2004, p. 211) state that ambidexterity is developed by "building a business-unit context that encourages individuals to make their own judgments as to how best divide their time between the conflicting demands for alignment and adaptability." In other words, organizations pursuing behavioral forms of ambidexterity must put in place practices that work to develop resource flexibility in their employee base, so that human resources (HR) have the discretion and motivation to devote their efforts to activities associated with both exploitation and exploration (Cordery, Sevastos, Mueller, & Parker, 1993; Lepak, Takeuchi, & Snell, 2003).

While the concept of the high-performance or -involvement HR practices has not been consistently and precisely defined in the literature, it is generally used to describe a system of horizontally and vertically aligned employment practices designed to affect both the ability and the motivation of employees (Huselid, 1995; Takeuchi et al., 2007). These employment models have an overarching goal of attracting, retaining, and motivating human resources to achieve organizational goals by creating a fit between the knowledge, skills, and abilities of the person and the tasks, duties, and responsibilities required by the job. The literature in this area has consistently argued that the practices themselves do not produce a competitive advantage; rather, performance gains arise from the human resources that are developed by the system (Appelbaum et al., 2000; Huselid, 1995; Wright, Dunford, & Snell, 2001; Wright, McMahan, & McWilliams, 1994). By the same logic, behavioral ambidexterity is not likely to arise from a set of practices, but rather out of the firm's unique human resource base (Barney, 1991). More specifically, it is realized through the flexibility of allocating the time and attention of human resources toward exploration and exploitation (Gibson & Birkinshaw, 2004; Lepak et al., 2003).

One of the important elements for achieving the alignment discussed by Gibson and Birkinshaw (2004) is stretch. Stretch occurs when

employees are given goals that “raise the bar” in comparison to previous performance targets. The HR system can be useful in building such a context by helping to form a context encouraging the attainment of more and more ambitious goals (Gibson & Birkinshaw, 2004). Such goals may be particularly powerful motivators when aligned with a proper set of incentives. When employees are offered financial benefits for exceeding goals and targets, they are more likely to feel the positive sense of stretch that is necessary to build an ambidextrous organization.

### *Incentives Programs as High-Involvement HR Practice*

Previous research supports the possibility that high-involvement HR practices affect the employee's collective behaviors and capabilities (Hsu, Lin, Lawler, & Wu, 2007; Sun et al., 2007), the organizational social climate (Collins & Smith, 2006; Ferris et al., 1998; Gant, Ichniowski, & Shaw, 2002; Kase, Paauwe, & Zupan, 2009). High-involvement HR practices may be grouped into ability-enhancing, motivation-enhancing, and opportunity-enhancing domains (Prieto & Santana, 2012, p. 192).

Prior researchers have investigated the impact of financial incentives on the productivity, motivation, and performance in various contexts. For instance, the impact of financial incentives on employee retention was investigated in the context of cross-border acquisitions (Ahammad, Glaister, Weber, & Tarba, 2012). Moreover, Weber and Tarba (2010) and Weber, Rachman-Moore, and Tarba (2011) investigated the impact of HR practices on the performance of mergers and acquisitions. According to Hayton (2005b), the influence of compensation practices on innovative performance has received the most attention. However, limited empirical evidence exists for the impact of financial incentive schemes such as fixed salary and performance-based bonuses on the motivation and performance of employees.

HR practices within the motivation-enhancing domain must provide the compensation system that includes incentive pay and performance appraisal criteria, as well as processes that motivate employees to work toward certain goals. On one hand, high-involvement HR practices may help generate a sense of procedural equality by determining rewards according to the results of employee evaluations. When decisions about employee rewards are based on the results of the work, employees perceive them as adequate. On the other hand, developmental rather than evaluative performance appraisal criteria and processes may have a positive effect on employee

motivation, because they offer positive feedback and recognition. Performance appraisal systems and merit-based compensation have become almost synonymous with the idea of fairness in an organization, which contributes to motivating employees.

The motivation-enhancing HR domain mostly includes compensation practices and performance appraisal procedures that might direct employees' actions toward the accomplishment of work objectives, and lead employees to perceive their organizations as valuing their contributions (Subramony, 2009), which compel them to reciprocate by holding positive attitudes and engaging in favorable discretionary behaviors (Sun et al., 2007). Compensation systems linking pay to performance (e.g., performance-based incentives and incentive plans) may also support social climates by clearly communicating organizational expectations regarding expected employee behaviors (Prieto & Santana, 2012, p. 194).

These kinds of incentives should lead to higher levels of acquaintance and trust necessary for social climates (Kang, Morris, & Snell, 2007). In addition, performance appraisal that provides regular feedback to employees will enhance feelings of competence and reinforce desired behaviors by giving managers the opportunity to communicate expected behaviors to employees (Gagné, 2009). Discussion of the performance assessment provides the opportunity to communicate the organization's shared vision and verbal rewards (positive feedback). Performance appraisals that have a developmental rather than a controlling focus will increase the perception of an organizational climate that is safe and nonjudgmental (Cabrera & Cabrera, 2005; Gagné, 2009).

---

*Performance appraisals that have a developmental rather than a controlling focus will increase the perception of an organizational climate that is safe and nonjudgmental.*

---

## **Theory and Hypotheses**

### *Financial Incentives and Contextual Ambidexterity*

While the ability to achieve ambidexterity arises out of the human resource base itself, it is likely to be supported by the system of HR practices employed by the organization (Patel et al., 2012). More specifically, the literature emphasizing behavioral models of ambidexterity has stressed the need to build an organizational context that allows the firm to be properly aligned with the existing market, but also adaptable to changing market realities (Gibson & Birkinshaw, 2004).

Gibson and Birkinshaw (2004) invoke Ghoshal and Bartlett's (1994) work to demonstrate that alignment is produced through an organizational context that combines discipline and stretch. Discipline is thought to be a function of having clear performance standards and expectations, swift and open feedback systems, and consistency in how employees are managed (Ghoshal & Bartlett, 1994). Stretch, however, refers to an organizational context in which members voluntarily and actively push their own standards and expectations to higher levels (Ghoshal & Bartlett, 1994). Therefore, an organization's HR system is likely to play an important role in producing these contextual or behavioral elements of ambidexterity (Patel et al., 2012).

Gibson and Birkinshaw (2004) suggested that one of the critical elements of building ambidextrous organization is stretch. Stretch transpires when employees are provided with "raise the bar" in comparison to preceding performance goals. The HR system can be useful in building such a context by helping to form a context encouraging the attainment of more and more ambitious goals. Such goals may be particularly powerful motivators when aligned with a proper set of incentives. When employees are offered financial incentives for exceeding goals and targets, they are more likely to feel the positive sense of stretch that is necessary to build an ambidextrous organization. Moreover, incentive schemes and performance appraisal procedures may direct employees' actions toward the accomplishment of work objectives and may lead employees to perceive their organizations as valuing their contributions (Subramony, 2009), which compel them to reciprocate by holding positive attitudes and engaging in favorable discretionary behaviors (Sun et al., 2007).

Consistent with Gibson and Birkinshaw (2004) and Patel et al. (2012), we argue that financial incentives such as fixed salary and performance bonus are expected to make employees feel the positive sense of stretch that is essential in building an ambidextrous organization. Based on the preceding argument, we suggest the following proposition:

*Proposition 1: Employees will change their effort to take advantage of financial incentives.*

### ***Abilities and Productivities of Employees and Financial Incentives***

According to Huselid (1995), high-involvement HR practices contribute to organizational performance by motivating employees to adopt desired

behaviors that, in the collective, contribute to the benefit of the firm. High-involvement practices are based on commitment and involvement, as opposed to the old traditional and hierarchical model based on control (Guerrero & Barraud-Didier, 2004). Two of the high-involvement HR practices are motivation enhancing and ability enhancing (Prieto & Santana, 2012).

The motivation-enhancing HR domain mostly includes compensation practices and performance appraisal procedures that might direct employees' actions toward the accomplishment of work objectives and lead employees to perceive their organizations as valuing their contributions (Subramony, 2009), which compel them to reciprocate by holding positive attitudes and engaging in favorable discretionary behaviors (Sun et al., 2007). HR practices within the ability-enhancing domain influence employees' ability to perform by influencing their knowledge, skills, and capabilities—elements of human capital (Hayton, 2005a, p. 140) and strategic human capital management (Hayton, 2003). One of the options available for firms to attain a higher level of human competence is through the staffing and recruitment processes that determine the characteristics of the workforce (Delery & Doty, 1996). Therefore, efforts can be oriented toward the improvement of the quality of the employees hired, so the comprehensiveness of the staffing processes is a critical element to determine the nature of the organization's workforce. High-involvement HR practices must place special emphasis on finding the right person for each position offered through recruitment and selection processes. Thus, the knowledge, skills, and capabilities of the workforce will influence employees' ability to perform in the workplace.

We extend the preceding argument by suggesting that the behaviors of the workforce will vary according to the competencies or ability of the employees, specially in the context of contradictory financial incentive schemes. For instance, an organization may offer two types of financial incentives: performance-based bonuses and fixed salary. Employees with higher ability are expected to change their behavior or effort by increasing their productivity to take advantage of performance-based bonuses. Employees with lower ability do not have the competencies or ability to respond to such incentive schemes and therefore will continue to have the same level of productivity. Consequently, the impact of financial incentives such as performance-based bonuses will vary according to the abilities of the employees. The preceding argument leads to the following proposition:

*Proposition 2: Employees with higher ability tend to increase their productivity to take advantage of an ex-post incentive, while employees with lower ability do not have the resources to respond to incentive schemes.*

Based on the preceding theory and hypotheses, we developed the following conceptual framework. The conceptual framework is also developed by following Malul and Luski (2009) and Malul (2009). The model analyzes how performance-based incentives affect workers' decisions regarding their motivation, productivity, and performance. The full analytical model is presented in the Appendix.

**Conceptual Framework**

Table I summarizes the individual decision regarding personal productivity as a function of ability (the basic scenario with no incentives). We can see that workers with abilities below the threshold are not employable due to the fact that their maximum productivity is lower than the minimum productivity required to be employed. Workers with relatively low abilities (above threshold) will obtain the minimal level of productivity required to keep their job, while workers with relatively high abilities will choose a productivity (higher than the minimal level of productivity required to keep their job), which is a positive function of their ability. Let's define the productivity of each worker in the basic state as his or her normal productivity.

In Figure 1, we illustrate the level of the normal productivity for each worker, with the differences between the workers being their respective abilities and the effect of a seasonal incentive on the individual's decision.

**Incentive 1**

The salary of each individual is set ex-ante (according to past performance) as his or her normal wage

(we assume that the wage equals the worker's productivity). Because utility is a negative function of effort, individuals will choose the lowest level of effort to achieve the threshold productivity that is essential to keep their job (the analytical formulation of these results may be found in the Appendix). We show that workers with relatively high ability will decrease their productivity in response to an ex-ante incentive scheme. This happens due to the fact that putting less effort does not lead to decrease in wage. Therefore, if workers want to maximize their utility under this incentive scheme, they should choose the minimum level of productivity needed to keep his job. The vertical line B in Figure 1 reflects the gap between the normal productivity (basic scenario) and the actual productivity for the different levels of abilities when incentive 1 is imposed. Workers with relatively low abilities remain with the minimum product needed to keep their job, so their productivity remain fixed (see the summary of these results in Table I). We should keep in mind that these workers are already producing the minimum level of productivity required to keep their job, so they do not have the option to change their productivity and decrease it as a response to the ex-ante incentive scheme. Indeed, workers with higher abilities will exploit the ex-ante scheme to decrease their productivity to maximize utility, while workers with relatively low ability do not have the option of using the incentive scheme to increase utility.

**Incentive 2**

The salary of each individual is set ex-post as a function of his or her actual productivity. In this case, the wage of an individual is set as the normal

---

*The model analyzes how performance-based incentives affect workers' decisions regarding their motivation, productivity, and performance.*

---

**TABLE I Worker's Productivity in the Different Incentives**

Worker's Productivity	Ability			
	Below Threshold	Low	Medium	High
Basic scenario	0	Minimum level of productivity	Minimum level of productivity	Productivity higher than the minimum and a positive function of abilities
Incentive 1 <i>Ex-ante</i>	0	Minimum level of productivity	Minimum level of productivity	Minimum level of productivity
Incentive 2 <i>Ex-post</i>	0	Minimum level of productivity	Productivity higher than the minimum and a positive function of abilities	Productivity higher than the minimum and a positive function of abilities

wage (basic scenario) plus a premium for abnormal productivity, so that  $W = \text{normal wage} + \text{premium}$  (the specification of this premium can be found in the Appendix).

The premium is positive when the worker's productivity is higher than his or her normal productivity, while it could be negative if the productivity is lower than the normal productivity. We show that individuals with medium and high abilities will choose to increase their productivity in comparison to the basic scenario and the ex-ante incentive scheme.

Line A in Figure 1 reflects the gap between the actual productivity and the normal productivity for individuals with relatively high ability for incentive 2.

Individuals with relatively low abilities will continue to have the same productivity, which is the minimal productivity required to be employable. Workers with higher abilities will be affected by the ex-post scheme and will increase their productivity in order to maximize utility, while workers with relatively low ability do not have the option to use the incentive scheme to increase utility.

The main conclusions drawn from the theoretical model is that workers will take advantage of both incentive 1 (ex-ante salary scheme) and incentive 2 (ex-post salary scheme). In the first scheme, they will decrease their productivity (increasing their utility), and in the second scheme they will increase their productivity (increasing their utility). We expect these outcomes from employees with relatively high abilities, while workers with relatively low abilities will not have the option of taking advantage of both incentives.

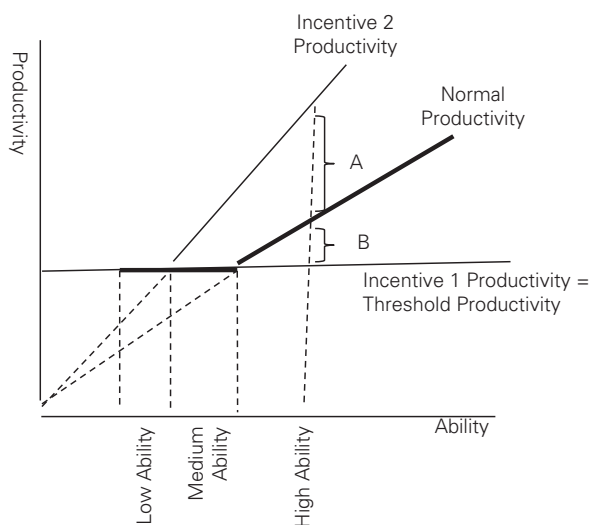


FIGURE 1. Productivity as a Function of Incentives

## Research Method

### Sample and Data Collection

Data were collected from a single bank in Israel. We received actual quarterly performance data for 133 bank employees, from the second quarter of 2007 through the first quarter of 2008. The sample includes all of the employees in one bank district (the southern district in Israel), with seven branches. The employees were on a plan that paid a bonus for achievements but was effective only in the last quarter of each year. The incentive program that we analyzed was targeted to individual employees' performance, so our conclusion holds for this specific type of incentive program.

This data set allows us to capture real performance of employees, without resorting to either an experiment or a survey. The combination of real performance data, seasonal incentive, and a focus on employees who are not the top executives is unique. The data also help control for the environment (exogenous) because the data are for a single period in one part of the country; we also controlled for the specific branch in which the employee worked. This allowed us to control not only for national and regional socioeconomic and environment conditions but also for micro-level environmental factors such as branch management and atmosphere.

Since our data include the years 2007–2008, we cannot ignore the financial crises. However, we believe we still can generalize our results for two reasons: the first is the method of cross-sectional analysis, which allows us to analyze the entire sample under the same market conditions. It might be that, although the results might be shifted upward or downward, our research focuses on the variation between the employees. The second reason is that the Israeli economy experienced no more than mild recession as a result of the global financial crises (Rosenberg, 2010). According to the Bank of Israel, the banks in Israel remained resilient compared with those abroad. This was due to their favorable situation prior to the crisis, and because the banking system in Israel is conservative and operates under comprehensive regulation and close supervision (Bank of Israel annual report, 2008).

Table II presents the descriptive statistics for the variables in the sample. As can be seen, the performance mean in the fourth quarter (Q4) is the highest, while the first and third quarters (Q1 and Q3) are the lowest.

### Measurement of Variables

The **dependent variable** is the performance of the employees. Employee performance is measured



**TABLE II** Descriptive Statistics

Variable	Standard			
	Mean	Deviation	Min	Max
Gender*	N/A	N/A	0	1
Age	37.51	8.75	22	59
Exp yrs	11.76	8.48	1	32
Academic	0.43	0.50	0	1
Q1	26.45	80.35	-223	222
Q2	75.56	25.43	-25	144
Q3	57.58	40.55	-73	185
Q4	134.95	65.95	-82	298

\*Gender is a categorical variable, therefore, does not have mean and standard deviation.

**TABLE III** The Selling Basket

Product	Weight
New wealthy costumers	25%
Credit cards to young customers	13%
New customers	11%
Growth in the number of standing orders	11%
Loans for cars	13%
New credit cards	12%
Connecting clients to direct banking (phone, Internet)	15%
<b>Total</b>	<b>100%</b>

for each quarter, based on seven financial products referred to as the “selling basket.” Each product has a different weight in the basket. The products and weights are displayed in Table III.

Managers set a target for each product for each employee. The effectiveness of an employee is measured by the following equation:

$$Effectiveness = \sum P_i \frac{InPractice_i}{Objective_i}$$

where:

*Effectiveness* = The measured performance of an employee (each quarter).

*P<sub>i</sub>* = The weight of a product being measured (see Table III).

*InPractice<sub>i</sub>* = The actual performance achieved by an employee for a specific product.

*Objective<sub>i</sub>* = The target set by a manager for a specific product.

The **independent variables** are demographic:

1. Age = Age of an employee.
2. Academic = Education of an employee, coded 0 if the employee did not have an academic education and 1 if the employee did have an academic education. Academic education as a proxy to ability has some limitation such as the fact that it does not take into consideration other forms of training such as non-academic courses and “on-the-job training.” Due to the fact that our database is limited to certain individual attributes, we take academic

education as the best proxy for ability. Several studies found that educational attainment is a good proxy for cognitive ability (Berry, Gruys, & Sackett, 2006; Hertwig, Zangerl, Biedert, & Margraf, 2008; Lleras-Muney, 2005). Specifically, Berry et al. (2006) found that educational attainment of at least one year of college does work as a cognitive screen.

3. Gender = Gender of an employee, coded 0 if the employee was female and 1 if the employee was male.
4. Exp\_yrs = Measured by the number of years an employee worked at the bank.
5. A dummy variable for each of the seven branches included in the sample.

### Findings and Analysis

#### *Impact of Incentive Programs on Employee Productivity and Performance*

First, we investigated the impact of incentive schemes (both ex-ante salary scheme and ex-post salary scheme) on the attitude, productivity, and performance of the bank employees. The bank paid a bonus to the employees based on their performance (effectiveness) in the fourth quarter. From the bank’s perspective, a bonus based on performance in the fourth quarter will give the employees greater motivation and improve the bank’s financial reports.

We conducted a mean difference T-test to check the differences between the effectiveness between the quarters (see Table IV).

**TABLE IV** Mean Difference

Q1 – Q2	Q1 – Q3	Q1 – Q4	Q2 – Q3	Q2 – Q4	Q3 – Q4	Q2 – (Q1 + Q3 + Q4) / 3
-49.1***	-31.1***	-108.5***	18.0***	-59.4***	-77.4***	2.5

\*\*\**p* < .01.

As can be seen in Table IV, the work done by the employees in the fourth quarter of 2007 (the bonus quarter) was significantly better than all the other quarters, and the work done in the second quarter of 2007 was significantly better than that in the third quarter of 2007 and first quarter of 2008. It is also clear from the data that first quarter of 2008 is significantly lower than all the other quarters including the third quarter. The only mean difference that is not significant in Table IV is the second quarter compared to the average performance of the three other quarters. The second quarter is the only one that does not have a direct impact by the bonus for the fourth quarter. Employees can delay work from the third quarter to the fourth, and after working hard in the fourth quarter, they will reduce work and rest during the first quarter of the following year. The results show that the seasonal bonus in the fourth quarter did not have any effect on the total annual performance of the company, but the fourth quarter (bonus quarter) outperformed all the other quarters.

Stretch is one of the critical elements necessary to build behavioral ambidexterity (Ghoshal & Barlett, 1994; Gibson & Birkinshaw, 2004). The findings of our study tend to support the views of Gibson and Birkinshaw (2004) and Patel et al. (2012), who suggested that financial incentives make employees feel

the positive sense of stretch that is vital in building ambidextrous organization. In addition, the finding of our study is consistent with Sun et al. (2007) who suggested that motivation-enhancing HR practices, like incentive schemes, influence employee behavior, effort, and performance. Incentive schemes may lead employees to perceive their organization as valuing their contribution (Subramony, 2009), which oblige them to give back by holding positive attitudes and engaging in favorable discretionary behaviors (Sun et al., 2007). Thus, the finding of our study supports Proposition 1 that employees will change their effort and productivity to take advantage of financial incentives.

### *Relationship between Employee Ability and Incentives Programs*

Our theoretical model also predicted that employees with high abilities would increase their productivity to obtain the bonus (i.e., the ex-post incentive); however, employees with low abilities would be unable to obtain the bonus and will be able to achieve only the fixed salary (i.e., ex-ante incentive). To identify the type of employees who attempted to achieve both incentives, we carried out further analysis.

We conducted empirical analysis to reveal what type of employees used the company's seasonally bonus (ex-post incentives) to their own benefit, by running OLS regressions (see Table IV). Age and the number of years in the bank were run in separate regressions due to the high correlation between them. As can be seen in Table V, these two variables have similar impact on employee performance.

**TABLE V** OLS Regressions for Effectiveness

	Q4				Q1			
Gender	-1.981 (-.191)	-3.028 (-.288)	-.277 (-.0286)	-.816 (-.0833)	-2.449 (-.180)	-3.621 (-.267)	-.286 (-.0210)	-.807 (-.0592)
Exp yrs	-2.459*** (-3.580)		-2.432*** (-3.762)		-3.072*** (-3.930)		-2.847*** (-3.653)	
Age		-1.944*** (-2.718)		-2.038*** (-3.164)		-2.966*** (-4.149)		-2.874*** (-4.114)
Academic	22.39* (1.920)	28.05** (2.514)	19.81* (1.828)	24.21** (2.334)	-35.36** (-2.284)	-32.03** (-2.118)	-33.67** (-2.165)	-32.03** (-2.121)
Controlled for branches			Yes	Yes			Yes	Yes
Constant	155.2*** (11.36)	197.3*** (6.545)	185.9*** (7.761)	233.1*** (6.860)	78.91*** (4.941)	153.2*** (4.786)	100.1*** (4.364)	174.4*** (4.823)
R <sup>2</sup>	.180	.157	.336	.322	.088	.093	.140	.152
Regression significant	.000	.000	.000	.000	.000	.000	.000	.000

Note: Robust t-statistics in parentheses \*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$ .

As can also be seen from the regression in Table V, the academic dummy is always significant and positive in the fourth quarter, and significantly negative in the first quarter even when controlling for a specific branch. This result shows that educated employees will take a bigger advantage of the seasonal incentive compensation plan, working much harder in the incentive quarter, and significantly reducing their efforts afterward. We obtain the same negative result for the third quarter but with less significance. These findings are in line with Proposition 2 of our theoretical framework.

Age and the number of years in the bank are always negatively significant, meaning that younger employees show better performance in any case. There are two potential reasons for this result: first, young employees are not tenured, so they need to perform better to keep their job. Second, this bank is unionized and younger employees have lower salaries, so there is a probably an income effect.

The findings of our study support and extend the views of Huselid (1995), Prieto and Santana (2012), and Sun et al. (2007). Our findings are also consistent with Huselid (1995) and suggest that high-involvement HR practices such as financial incentives contribute to performance by motivating employees to adopt appropriate behaviors. Moreover, our findings support the views of Sun et al. (2007), who suggested that motivation-enhancing HR practices such as financial incentives may compel employees to reciprocate by holding positive attitudes and engaging in favorable discretionary behaviors.

Our findings tend to indicate that ex-ante incentive such as fixed salary contributes to generating a sense of procedural equality by providing incentives to all types of employees. Simultaneously, ex-post incentive such as seasonal bonus directs employee actions toward accomplishing work objectives set by managers. In addition, ex-post incentives motivate employees to maintain a positive attitude and engage in favorable discretionary behavior (e.g., increasing productivity to achieve bonus incentive), a view consistent with Sun et al. (2007) and Prieto and Santana (2012). We observed similar change in attitudes and behaviors in bank employees in the bonus quarter period. We also identified the type of employees who attempt to earn the seasonal bonus incentives.

Our findings extend the literature on behavioral ambidexterity. Prior research indicates that the knowledge, skills, and capabilities of the workforce will influence employee's ability to perform in the workplace (Prieto & Santana, 2012;

Subramony, 2009; Sun et al., 2007). We extend the argument by suggesting that the behaviors of the workforce will vary according to the competencies or ability of the employees, especially in the context of contradictory financial incentive schemes. Employees with higher ability are expected to change their behavior or effort by increasing the productivity to take advantage of performance-based bonuses. However, employees with lower ability do not have the competencies or ability to respond to such incentive schemes and therefore will continue to have the same level of productivity. Consequently, the impact of financial incentives such as performance-based bonuses will vary according to the abilities of the employees. This finding supports Proposition 2 and indicates that employees with higher ability tend to increase their productivity in order to take advantage of an ex-post incentive while employees with lower ability do not have the resources to respond to incentive schemes.

While employees with high abilities make a greater effort to achieve the performance goals, employees with low abilities are unable to earn seasonal bonus incentive. Employees with low abilities should be encouraged to work toward bonus incentives. We argue that organizations should use bonus incentive programs as a way to motivate and to identify employees who require additional support. In this case, employees with low abilities should be offered appropriate training and support to equip them with the skills necessary to benefit from the seasonal bonus scheme. Providing employees with appropriate training is essential for the development of competencies to perform because only some elements of the competencies can be bought through recruitment and selection, and some must be developed in-house (Hayton & Kelley, 2006, p. 422) such as providing appropriate training. This support can be expected to improve their ability and attitude, which are required to obtain better performance. In this way, an organization can simultaneously implement ex-post and ex-ante incentive programs.

If employees are offered financial incentives for achieving goals and target, they are more likely to feel the positive sense of stretch that is necessary to build an ambidextrous organization. In addition, following Cabrera and Cabrera (2005) and Gagné (2009), we recommend that performance appraisal and incentive programs should have a developmental rather than a controlling focus. Such programs are expected to enhance the positive perception of organizational climate and contribute in motivating employees (Prieto & Santana, 2012).

## Conclusions

Prior researchers investigated the mechanism linking high-performance HR performance to contextual ambidexterity (Patel et al., 2012) and the performance implication of ambidexterity (Gibson & Birkinshaw, 2004; Raisch et al., 2009). Our article explicitly highlights that motivation-enhancing HR practices such as financial incentive schemes significantly influence the productivity and performance of commercial bank employees. Our study contributes to the ambidexterity literature by examining how motivation-enhancing HR practices such as incentive schemes make employees feel the sense of stretch that is essential in building an ambidextrous organization.

*The findings of our study indicate that organizations can implement ex-post incentive schemes and influence the motivation and performance of the employees with medium and high abilities, which in turn can improve the financial performance of the organization.*

In addition, we investigated how the behaviors and effort of employees vary according to the abilities of the employees, especially, in the context of contradictory financial incentives (e.g., performance-based bonus and fixed salary). The findings of our study indicate that organizations can implement ex-post incentive schemes and influence the motivation and performance of the employees with medium and high abilities, which in turn can improve the financial performance of the organization. Ex-post and ex-ante incentives influence the productivity, motivation, and performance of employees. However, only employees with high abilities can take advantage of both types of incentives; employees with low abilities are unable to do so. We argue that organizations can still implement ex-post incentives as a way of identifying employees requiring additional support and training. If

they use ex-post incentives not only as a tool to motivate employees but also as a developmental appraisal method, they can successfully attain contextual or behavioral ambidexterity, because ambidexterity is an important orientation for organizational units to enhance their performance (Jansen et al., 2012).

## Managerial Implications

Our study has a number of managerial implications. First, managers aiming to build ambidextrous organizations should implement high-involvement HR practices such as financial incentives. We found evidence that financial incentives make employees feel the positive sense

of stretch that is vital in building ambidextrous organization. Incentive schemes may lead employees to perceive their organization as valuing their contribution (Subramony, 2009), which oblige them to give back by holding positive attitudes and engaging in favorable discretionary behaviors (Sun et al., 2007). Consequently, employees will change their effort and productivity to take advantage of financial incentives. Therefore, managers should design and implement financial incentive schemes that make employees feel the positive sense of stretch that is essential in building ambidextrous organization.

Second, managers should consider the competencies or abilities of employees in designing incentives structures. We found evidence that the behaviors and efforts of the employees will vary according to the competencies or ability of the employees, especially in the context of contradictory financial incentive schemes. Employees with higher ability are expected to change their effort by increasing the productivity to take advantage of performance-based bonuses. However, employees with lower ability do not have the competencies or ability to respond to such incentive schemes; therefore, they will remain with the same level of productivity. Consequently, the impact of financial incentives such as performance-based bonuses will vary according to the abilities of the employees. Therefore, managers should consider the abilities of employees in designing financial incentives and in considering the context required to build ambidextrous organization.

Finally, because different types of employees respond to different types of financial incentives, managers should use ex-post incentives (performance-based bonuses) as a developmental tool for employees with lower ability. Managers can use ex-post incentives as a way of identifying employees requiring further training and assistance. Such training and support are expected to improve the skills necessary to successfully achieve the ex-post incentives and enhance employee performance. Our findings also reiterate the significance of using developmental rather than controlling performance appraisal and incentive programs. Such incentive and appraisal programs have become almost synonymous with the idea of fairness in the organization, which contributes to motivating employees (Prieto & Santana, 2012). Therefore, managers should design incentives and performance appraisal programs that emphasize development requirements.

## Limitations and Future Research Directions

We designed our study in a way that avoids various threats to validity but is not without

limitations. Our sample was taken from a single region of a large financial services firm. While this helped us to control for corporate-, industry-, and country-specific differences that might have otherwise confounded the results, without comparative data from other firms and industries, we cannot rule this out as a limiting factor for generalizing our results. In less regulated and more dynamic industrial settings, for instance, effects

of unit ambidexterity on performance might be more pronounced. However, the financial services sector has also been witnessing increasing turbulence due to increased competition. Thus, while it may be useful for future researchers to gather data from other types of units and multi-unit firms, we believe the findings would be, at most, a matter of degree and not significantly different in direction.

---

**MOHAMMAD FAISAL AHAMMAD** is a senior lecturer at Nottingham Trent University, United Kingdom. Dr. Ahammad is an active researcher in the field of international business and finance, in particular in the area of cross border mergers and acquisitions (M&As) on which he holds a PhD degree from the University of Sheffield. Dr. Ahammad has published his research studies in *International Business Review*, *International Studies of Management & Organization*, *European Journal of International Management*, and others. His current research projects include strategic agility in post-acquisition integration, strategic talent management in Chinese cross-border M&A, and the negotiation process in cross-border M&As.

**SANG MOOK LEE** is currently an assistant professor of finance at Penn State Great Valley. He received his PhD from Temple University and MBA from Ohio State University. Prior to joining Penn State Great Valley, he gained various professional experience as a senior manager at the Korea Deposit Insurance Corporation and as a fixed income trader at the Asian Banking Corporation, one of the prestigious investment banks in Korea. His field of expertise is empirical corporate finance. He is a Chartered Financial Analyst (CFA).

**MIKI MALUL** is a graduate of Ben-Gurion University of the Negev and was a visiting scholar in the Department of City and Regional Planning at Cornell University. He is currently on the faculty of the Department of Public Policy and Administration at Ben-Gurion University of the Negev. His research interests include labor economics, inequality, poverty, and regional development.

**AMIR SHOHAM** holds degrees in economics and business administration from Ben-Gurion University. He is currently on the faculty of the finance department at the Fox School of Business, Temple University. Dr. Shoham is also a faculty member (leave of absence) at the College of Management Academic Studies Israel. He taught academic courses in economics and finance in seven countries, including China, France, and Georgia. In previous years he was on the board of directors of two public firms. He has published articles in the *Journal of International Business Studies*, *Applied Economic Letters*, *Journal of Socio-Economics*, and others.

---

## References

- Ahammad, M. F., Glaister, K., Weber, Y., & Tarba, S. Y. (2012). Top management retention in cross-border acquisitions: The roles of financial incentives, acquirer's commitment and autonomy. *European Journal International Management*, 6(4), 458–480.
- Appelbaum, E., Bailey, T., Berg, P., & Kallerberg, A. (2000). *Manufacturing advantage: Why high performance work systems pay off*. New York, NY: Columbia University Press.
- Bank of Israel, 2008. *Bank of Israel Annual Report 2008*. Jerusalem, Israel: Author.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Berry, C. M., Gruys, M. L., & Sackett, P. R. (2006). Educational attainment as a proxy for cognitive ability in selection: Effects on levels of cognitive ability and adverse impact. *Journal of Applied Psychology*, 91, 696–705.
- Bierly, P. E., & Daly, P. S. (2007). Alternative knowledge strategies, competitive environment, and organizational

- performance in small manufacturing firms. *Entrepreneurship: Theory and Practice*, 31, 493–516.
- Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of Management Perspective*, 27(4), 287–298. doi:10.5465/amp.2012.0167
- Burton, M. D., O'Reilly, C. A., & Bidwell, M. (2012, August). Management systems for exploration and exploitation: The micro-foundations of organizational ambidexterity. Paper presented at the annual meetings of the Academy of Management, Boston.
- Cabrera, E., & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *International Journal of Human Resource Management*, 16(5), 720–735.
- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, 20(4), 781–796.
- Caspin-Wagner, K., Ellis, S., & Tishler, A. (2012). Balancing exploration and exploitation for firm's superior performance: The role of the environment. Paper presented at the annual meetings of the Academy of Management.
- Chermack, T. J., Bodwell, W., & Glick, M. (2010). Effectiveness: Scenario planning and organizational ambidexterity two strategies for leveraging teams toward organizational. *Advances in Developing Human Resources*, 12, 137–156.
- Collins, C. J., & Clark, K. D. (2003). Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage. *Academy of Management Journal*, 46(6), 740–751.
- Collins, C. J., & Smith, K. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal*, 49(3), 544–560.
- Cordery, J., Sevastos, P., Mueller, W., & Parker, S. (1993). Correlates of employee attitudes toward functional flexibility. *Human Relations*, 46(6), 705–723.
- Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Test of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39, 802–835.
- Ebben, J. J., & Johnson, A. C. (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal*, 26, 1249–1259.
- Ferris, G. R., Arthur, M. M., Berkson, H. M., Kaplan, D. M., Harrell-Cook, G., & Frink, D. D. (1998). Towards a social context theory of the human resource management effectiveness relationship. *Human Resource Management Review*, 8, 235–264.
- Gagné, M. (2009). A model of knowledge-sharing motivation. *Human Resource Management*, 48(4), 571–589.
- Gant, J., Ichniowski, C., & Shaw, K. (2002). Social capital and organizational change in high involvement and traditional work organizations. *Journal of Economic and Management Strategy*, 11, 289–328.
- Geerts, A., Blindenbach-Driessen, F., & Gemmel, P. (2010). Achieving a balance between exploration and exploitation in service firms: A longitudinal study. Paper presented at the annual meetings of the Academy of Management.
- Ghoshal, S., & Bartlett, C. (1994). Linking organizational context and managerial action: The dimensions of quality of management. *Strategic Management Journal*, 15(5), 91–112.
- Gibson, C. B., & Birkinshaw, J. (2004). 'The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47, 209–226.
- Graetz, F., & Smith, A. (2005). Organizing forms in change management: the role of structures, processes and boundaries in a longitudinal case analysis. *Journal of Change Management*, 5(3), 311–328.
- Groysberg, B., & Lee, L. (2009). Hiring stars and their colleagues: Exploration and exploitation in professional service firms. *Organization Science*, 20(4), 740–758.
- Guerrero, S., & Barraud-Didier, V. (2004). High involvement practices and performance of French firms. *International Journal of Human Resource Management*, 15, 1408–1423.
- Gulati, R., & Puranam, P. (2009). Renewal through reorganization: The value of inconsistencies between formal and informal organization. *Organization Science*, 20(2), 422–440.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49(4), 693–706.
- Han, M., & Celly, N. (2008). Strategic ambidexterity and performance in international new ventures. *Canadian Journal of Administrative Sciences*, 25, 335–349.
- Hayton, J. C. (2003). Strategic human capital management in SMEs: An empirical study of entrepreneurial performance. *Human Resource Management*, 42(4), 375–391.
- Hayton, J. C. (2005a). Competing in the new economy: The effect of intellectual capital on corporate entrepreneurship in high-technology new ventures. *R&D Management*, 35(2), 137–155.
- Hayton, J. C. (2005b). Promoting corporate entrepreneurship through human resource management practices: A review of empirical research. *Human Resource Management Review*, 15, 21–41.
- Hayton, J. C., & Kelley, D. J. (2006). A competency-based framework for promoting corporate entrepreneurship. *Human Resource Management*, 45(3), 407–427.
- Hertwig, R., Zangerl, M. A., Biedert, E., & Margraf, J. (2008). The public's probabilistic numeracy: How tasks, education and exposure to games of chance shape it. *Journal of Behavioral Decision Making*, 21, 457–470.
- Hsu, I., Lin, C. Y., Lawler, J. J., & Wu, S. (2007). Toward a model of organizational human capital development: Preliminary evidence from Taiwan. *Asia Pacific Business Review*, 13, 251–275.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635–672.
- Jansen, J. J. P., George, G., Bosch, V. D., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: the moderating role of transformational leadership. *Journal of Management Studies*, 45(5), 982–1007.
- Jansen, J. J. P., Simsek, Z., & Cao, Q. (2012). Ambidexterity and performance in multiunit contexts: Cross-level moderating effects of structural and resource attributes. *Strategic Management Journal*, 33(11), 1286–1303. doi: 10.1002/smj.1977

- Junni, P., Sarala, R., Taras, V., & Tarba, S. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspective*, 27(4), 299–312. doi:10.5465/amp.2012.0015
- Kang, S., Morris, S., & Snell, S. (2007). Relational archetypes, organizational learning, and value creation: Extending the human resource architecture. *Academy of Management Review*, 32, 236–256.
- Kang, S. C., & Snell, S. A. (2009). Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies*, 46(1), 65–92.
- Kase, R., Paauwe, J., & Zupan, N. (2009). HR practices, interpersonal relations, and intrafirm knowledge transfer in knowledge-intensive firms: A social network perspective. *Human Resource Management*, 48, 615–639.
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *Academy of Management Annals*, 4, 109–155.
- Lepak, D. P., Takeuchi, R., & Snell, S. A. (2003). Employment flexibility and firm performance: Examining the interaction effects of employment mode, environmental dynamism, and technological intensity. *Journal of Management*, 29(5), 681–703.
- Lleras-Muney, A. (2005) The relationship between education and adult mortality in the United States. *Review of Economic Studies*, 72, 189–221.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32(5), 646–672.
- Malul, M. (2009). Older workers' employment in dynamic technology changes. *Journal of Socio-Economics*, 38(5), 809–813.
- Malul, M., & Luski, I. (2009). The optimal policy combination of the minimum wage and the earned income tax credit. *B.E. Journal of Economic Analysis and Policy*, 9(1), 51.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71–87.
- Markides, C. (2013). Business model innovation: What can the ambidexterity literature teach us? *Academy of Management Perspective*, 27(4), 313–323. doi:10.5465/amp.2012.0172
- Markides, C., & Charitou, C. (2004). Competing with dual business models: A contingency approach. *Academy of Management Executive*, 18, 22–36.
- Masini, A., Zollo, M., & Wassenhove, L. (2004). Understanding exploration and exploitation in changing operating routines: The influence of industry and organizational traits. London Business School Working Paper, OTM 04-022.
- O'Reilly, C. A., Harrell, J. B., & Tushman, M. L. (2009). Organizational ambidexterity: IBM and emerging business opportunities. *California Management Review*, 51, 1–25.
- O'Reilly, C. A., & Tushman, M. L. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38(4), 8–30.
- O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review*, 82(4), 74–81.
- O'Reilly, C. A., & Tushman, M. L. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review*, 53(4), 5–22.
- O'Reilly, C. A., & Tushman, M. L. (2013) Organizational ambidexterity: Past, present and future. *Academy of Management Perspective*, 27(4), 324–338. doi:10.5465/amp.2013.0025
- Patel, P., Messersmith, J., & Lepak, D. (2012). Walking the tightrope: An assessment of the relationship between high performance work systems and organizational ambidexterity'. *Academy of Management Journal*, 55(6), 1264–1294. doi:10.5465/amj.2011.0255.
- Prieto, I. M., & Santana, M. P. (2012). Building ambidexterity: The role of human resource practices in the performance of firms from Spain. *Human Resource Management*, 51(2), 189–212.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34, 375–409.
- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science*, 20(4), 685–695.
- Rosenberg, D. (2010). The Israeli economy: After the financial crisis, new challenges. *Middle East Review of International Affairs*, 14(1), 68–79.
- Sarkees, M., & Hulland, J. (2009). Innovation and efficiency: It is possible to have it all. *Business Horizons*, 52(1), 45–55.
- Schulze, P., Heinemann, F., & Abedin, A. (2008). Balancing exploitation and exploration: Organizational antecedents and performance effects of ambidexterity. Best Paper Proceedings of the Academy of Management.
- Simsek, Z. (2009). Organizational ambidexterity: Towards a multilevel understanding. *Journal of Management Studies*, 46(4), 597–624.
- Simsek, Z., Heavey, C., Veiga, J. F., & Souder, D. (2009). A typology for aligning organizational ambidexterity's conceptualizations, antecedents, and outcomes. *Journal of Management Studies*, 46(5), 864–894.
- Subramony, M. (2009). A meta-analytic investigation of the relation between HRM bundles and firm performance. *Human Resource Management*, 48, 745–768.
- Sun, L., Aryee, S., & Law, K. S. (2007). High-performance human resource practices, citizenship behavior and organizational performance: A relational perspective. *Academy of Management Journal*, 50(3), 558–577.
- Takeuchi, R., Lepak, D. P., Wang, H., & Takeuchi, K. (2007). An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations. *Journal of Applied Psychology*, 92(4), 1069–1083.
- Turner, N., & Lee-Kelley, L. (2012). Unpacking the theory on ambidexterity: An illustrative case on the managerial architectures, mechanisms and dynamics. *Management Learning*, 44(2), 179–196. doi:10.1177/1350507612444074
- Van Looy, B., Martens, T., & Debackere, K. (2005). Organizing for continuous innovation: On the sustainability of ambidextrous organizations. *Creativity and Innovation Management*, 14, 208–221.
- Wang, C. L., & Rafiq, M. (2012). Ambidextrous organizational culture, contextual ambidexterity and new product innovation: A comparative study of UK and Chinese high-tech firms. *British Journal of Management*. doi:10.1111/j.1467-8551.2012.00832.x

Weber, Y., Rachman-Moore, D., & Tarba, S. Y. (2011). HR practices during post-merger conflict and merger performance. *International Journal of Cross Cultural Management*, 12(1), 73–99.

Weber, Y., & Tarba, S. Y. (2010). Human resource practices and performance of mergers and acquisitions in Israel. *Human Resource Management Review*, 20, 203–211.

Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource-based view of the firm. *Journal of Management*, 27(6), 701–721.

Wright, P. M., McMahan, G. C., & McWilliams, A. (1994). Human resources and sustained competitive advantage: A resource-based perspective. *International Journal of Human Resource Management*, 5(2), 301–326.



**APPENDIX The Analytical Model**

*The Model: Assumptions and Notations*

- Each worker maximizes his or her utility, which is an increasing function of wage.
- Wage (W) = worker’s productivity (TP). This assumption is common when perfect competition exists in the labor market.
- TP is a positive function of the effort (E) a worker invests in his or her work.
- Investing more effort increases the workers’ productivity, thereby increasing his or her wage. However, it also has a negative effect on the worker’s utility (i.e., less leisure).
- Workers have heterogeneous abilities ( $\mu_i$ ) so that the cost of obtaining certain productivity (i.e., less leisure) is lower for a worker with relatively high ability, compared to a worker with relatively low ability.
- Assume that there is a minimum level of productivity  $\hat{TP}$  that the worker has to conduct to be paid a salary. Workers that cannot satisfy this level of productivity cannot be employed.

A worker maximizes his or her utility, which is:  $u_i = w_i - \frac{E_i^\alpha}{\alpha\mu_i}$

Where:

- $E_i$  = the level of effort the worker puts in his or her work
- $w_i$  = the worker’s salary
- $\mu_i$  = the worker’s ability
- $u_i$  = the worker’s utility

Assume that  $TP_i$  is the value of the product that the workers produce in a certain period. It depends on the level of effort that the workers put in their work. For simplicity, assume that  $TP_i = E_i$  and that  $w_i = TP_i$ .

$\frac{1}{\alpha\mu_i}E_i^\alpha$  is the cost of achieving a certain level of productivity:  $TP_i$ .  $\alpha > 1$ , which means that the marginal cost of effort is increasing. It can be seen that as the ability ( $\mu_i$ ) increases the cost of achieving certain level of productivity decreases.

*Individual Decision Regarding Level of Effort*

Each individual maximizes his or her utility by choosing the level of effort invested in his or her work. Assume that there is a minimum level of productivity  $\hat{TP}$  that the worker has to conduct to get a salary. Therefore, only individuals whose productivity is higher than  $\hat{TP}$  work. It can be shown that only workers with abilities that satisfy  $\mu_i > \mu^*$  (where  $\mu^* = \frac{\hat{TP}^{\alpha-1}}{\alpha}$ ) have positive utility from work.

*Levels of Effort Chosen by Individuals*

**Case 1:** Individuals with relatively high abilities  $\mu_i > \mu^{**}$  where  $\mu^{**} = \hat{TP}^{\alpha-1}$  so the chosen productivity is higher than the minimum ( $\hat{TP}$ ) required to keep the job.

Maximizing utility reveals that:

$$1. E_i^* = \mu_i^{\frac{1}{\alpha-1}}$$

$TP_i^*$  is the normal product for each individual where  $TP_i^* = E_i^*$ , so his or her salary will be:

$$2. w_i^* = \mu_i^{\frac{1}{\alpha-1}}$$

Assume that the firm sets  $w_i^*$  as the normal wage of the individual.

Individual utility will be:

$$3. u_i^* = \frac{\alpha-1}{\alpha} \mu_i^{\frac{1}{\alpha-1}}$$

**Case 2:** Individuals with relatively low ability  $\mu^* < \mu_i < \mu^{**}$ .

Maximizing utility reveals that:

$$1. E_i^* = \hat{TP}$$

So his or her salary will be:

$$2. w_i^* = \hat{TP}$$

and his or her utility will be:

$$3. u_i^* = \hat{TP} - \frac{\hat{TP}^\alpha}{\alpha\mu_i}$$

**Effect of Seasonal Incentive on the Individual's Decision**

**Incentive 1:** The salary of each individual sets ex-ante as his or her normal wage  $w_i^*$

In that case the utility function of each individual will be:

$$u_i = w_i^* - \frac{E_i^\alpha}{\alpha\mu_i}$$

Because utility is a negative function of effort, each individual will choose the lowest level of effort  $E_i = \hat{TP}$  that is essential to keep his or her job. Line B in figure 1 reflects the gap between the normal productivity and the actual productivity for individuals with ability  $\mu_1$  (high ability) for incentive 1.

The gap in worker's productivity compared to his/her normal productivity: for workers with high abilities ( $\mu_i > \mu^{**}$ ) is  $TP_i^* - \hat{TP} > 0$ , while workers with low abilities ( $\mu^* < \mu_i < \mu^{**}$ ) remains with the minimum product needed to keep their job. Actually workers with higher abilities will exploit the ex-ante scheme and will decrease their productivity to maximize utility, while workers with relatively low ability have no option to use the incentive scheme to increase utility.

**Incentive 2:** The salary of each individual sets ex-post as a function of his or her actual productivity

$$w_i = w_i^* + \beta(TP_i - TP_i^*)$$

Assume that  $\beta > 1$ , which means that the compensation for abnormal productivity is higher than the normal compensation.

The worker's utility will be:

$$u_i = w_i^* + \beta(TP_i - TP_i^*) - \frac{E_i^\alpha}{\alpha\mu_i}$$

In that case, the level of productivity that each individual (with  $\mu^{***} < \mu_i$  where  $\mu^{***} = \frac{\hat{TP}}{\beta}$ ) will choose is:

$$TP_i^p = E_i = (\beta\mu_i)^{\frac{1}{\alpha-1}} > TP_i^*$$

The productivity that each individual will choose when premium is paid for abnormal productivity is  $TP_i^p > TP_i^* > \hat{TP}$ .

Line A in figure 1 reflects the gap between the actual productivity and the normal productivity for individual with ability  $\mu_1$  for incentive 1.

While individuals with low abilities  $\mu^* < \mu_i < \mu^{***}$  will remain with the same productivity  $\hat{TP}$ , workers with higher abilities will be affected by the ex-post scheme and increase their productivity to maximize utility, while workers with relatively low ability do not have the option to use the incentive scheme to increase utility.