Exploration and exploitation: Do actual behaviors match individuals’ perceptions?
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EXPLORATION AND EXPLOITATION:
DO ACTUAL BEHAVIORS MATCH INDIVIDUALS’ PERCEPTIONS?

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Abstract. Research on contextual ambidexterity assumes that an organization’s capacity to pursue simultaneously exploration and exploitation leverages on organizational solutions encouraging a balance between these two learning orientations. However, limited attention has as yet been devoted to the investigation of contextual ambidexterity at the individual level of analysis. Starting from this gap, this paper addresses the following research questions: How do individuals perceive the learning orientation required of them by their job? Do individuals’ behaviors match their perceived orientation? How can the matching/mismatching between perceptions and behaviors be explained? To address these issues a multiple case study of 16 managers and assistants in the R&D and Sales units of four medium enterprises located in Northeast Italy was carried out. Our findings show that perceptions and actual behaviors, as dimensions of the personal ambidexterity, are independent of each other and can determine a misalignment with the organizational ambidexterity. Accordingly, we propose a conceptual and operational framework, in which the interplay among individual factors such as prior work experiences and personal characteristics, through the mechanism of role stressors, mold both dimensions of personal ambidexterity.

Keywords: Exploration; Exploitation; Ambidexterity; Learning orientation; Individual behavior

JEL Classification Numbers: M10, M12.

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1. Introduction

The ability of a firm to exploit its current capabilities as well as to explore new opportunities represents the core of the organizational learning process. In his seminal definition, March (1991) considered exploitation and exploration as the opposite ends of a continuum, providing arguments to support their incompatibility. Therefore, the trade-off to pursue both orientations has been tackled for a long time suggesting ambidextrous solutions. On the one hand, structural ambidexterity implies a differentiation between units and people in charge of experimenting new activities or exploiting existing solutions (Tushman and O’Reilly, 1996; Benner and Tushman, 2003); on the other hand, cyclical or sequential ambidexterity calls for the alternation between long periods of exploitation and short bursts of exploration (Siggelkow and Levinthal, 2003; Rothaermel and Deeds, 2004; Simsek et al., 2009).

Adopting a different approach, research has conceptualized exploitation and exploration as orthogonal learning orientations, emphasizing the benefits firms attain by achieving exploration and exploitation simultaneously (Gibson and Birkinshaw, 2004; He and Wong, 2004). Accordingly, contextual ambidexterity maintains that the organizational context should be designed to enable and encourage individual behaviors toward both learning orientations, and thus to support individuals to switch between different mind and action sets in accordance with situational demands (Gibson and Birkinshaw, 2004; Raisch and Birkinshaw, 2008; Raisch et al., 2009).

Despite the valuable insights that the body of literature on ambidexterity has provided, a main limitation can be highlighted. The concept of ambidexterity, adopted at the firm level of analysis, is still underdeveloped at the individual level (Rosing et al., 2011). To this regard, recent literature reviews highlighted the need for studies spanning multiple levels of analysis (Raisch and Birkinshaw, 2008; Raisch et al., 2009) and in their theoretical contribution, Raisch et al. (2009) point out the need for exploring further the individual dimension of ambidexterity (personal ambidexterity) since providing insight into individuals’ exploration and exploitation activities may contribute to the understanding about how to build exploration and exploitation within a unit or firm (organizational ambidexterity). Yet while the interplay between firm and individual level seems to be a key issue in organizational learning debate (Antonacopoulou, 2006), only few empirical research has tackled the individual dimension of ambidexterity (Mom et al., 2007; 2009). These studies conceptualize and measure the two learning orientations at the individual level and demonstrate that managers can be ambidextrous. They also provide evidence on the organizational mechanisms that favor managers to engage in exploration and exploitation activities simultaneously. However, that analysis focuses on how managers perceive their engagement in exploration and exploitation activities requested by their job, neglecting a) the concrete behaviors performed by individuals, b) if these behaviors are consistent with their perceptions and c) the drivers that explain the possible consistency or inconsistency. Indeed, even if individuals could correctly perceive the learning orientation expected by their organization, at the same time they might not activate consistent behaviors in their daily activities since they are not able to face the challenge of conciliating the dual demands (Gupta et al., 2006).

Starting from this gap, this paper addresses the following research questions: How do individuals perceive the learning orientation requested to them by their job? Do individuals’ behaviors match their perceived orientation? How does the matching/mismatching between perceptions and behaviors can be explained?

To address these research questions a qualitative approach was chosen (Yin 1994). A multiple case study was carried out on 16 business unit managers and their direct assistants of four medium enterprises located in Northeast Italy, which are increasingly facing the tensions between exploration, due to changes on technologies and customer demands, and exploitation, because of time pressures and a strong focus on efficiency.

The contribution of the paper is twofold. First, we extend the concept of personal ambidexterity proposing and defining two dimensions: the perceived and the actual orientations toward exploration and exploitation. Second, we contribute to the understanding of the relationship between individuals’
perceptions and their behaviors, by assessing the level of consistency between the two dimensions and by identifying the drivers of the possible matching-mismatching.

This paper is organized as follows. The next section presents the theoretical background. It delves into the concepts of learning orientation toward exploration and exploitation and the relevance of the individual level of analysis. Then, the method section provides details about data collection. Next, we present the empirical findings and conclude with a discussion of the results and managerial implications.

2. Towards a personal ambidexterity approach

According to March’s seminal article, exploitation can be associated to terms such as refinement, choice, production, efficiency, selection, implementation, and execution, whereas exploration includes concepts captured by terms such as search, variation, risk taking, experimentation, flexibility, discovery, and innovation (March, 1991: 71).

Empirical research found support for the positive effect of the balance between these two learning orientations both on innovation output and on firm performance (Tushman and O’Reilly, 1996; Danneels, 2002; Katila and Ahuja, 2002; Gibson and Birkinshaw, 2004; He and Wong, 2004). For instance, He and Wong (2004) found that firms that pursue both exploration and exploitation simultaneously achieve higher sales performance. These findings support the general agreement that “variance does not generate returns without some efforts to fix and develop the new knowledge” (McGrath, 2000: 119). Indeed, an overreliance on exploration, that generates both higher potential benefits and higher potential costs, may cause the firm to operate with less efficiency since it is constantly renewing its knowledge base without fully utilizing it (Levinthal and March, 1993). On the other hand, a firm that shows an exclusive focus on exploitative learning, whose returns are more certain and familiar, may risk the obsolescence of its knowledge base.

Despite this positive interplay between exploration and exploitation, scholars have long noted that firms face difficulties in balancing the two learning orientations, since they involve different cognitive orientations, processes and structures that can create paradoxical challenges (Levinthal and March, 1993). Literature offers three possible ways to balance exploitation and exploration: structural ambidexterity, cycling or sequential ambidexterity and contextual ambidexterity (Gupta et al., 2006; Raisch and Birkinshaw, 2008; Raisch et al., 2009). In all these approaches, scholars adopt the concept of organizational ambidexterity, thus measuring it at the firm level, investigating how the company divides attention and resources between activities with explorative versus exploitative objectives. For instance, they analyze the level of importance of introducing new generations of products vs. improving existing products, or opening up new markets vs. enhancing existing markets (He and Wong, 2004; Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2006; Cao et al., 2010).

The first approach, structural ambidexterity, conceives the two learning orientations as opposite ends of a continuum and suggests that in order to achieve exploration and exploitation firms could design a dual architecture (spatial separation) in which some units are organized to be efficient while others to experiment and improvise (Tushman and O’Reilly, 1996; Benner and Tushman, 2003; Tushman and O’Reilly, 2008).

Adopting the same differentiation logic, sequential ambidexterity implies a temporal separation between long periods of exploitation and short bursts of exploration (Burgelman, 2002; Siggelkow and Levinthal, 2003).

A different approach is provided by contextual ambidexterity, defined by Gibson and Birkinshaw (2004: 209) as the behavioral capacity to conciliate simultaneously both exploration and exploitation across an entire business unit. According to this approach, exploration and exploitation are achieved simultaneously, since individuals make their own choice about how to divide their time and tasks between exploratory and exploitative activities, for instance between an existing or a new customer. These studies provide interesting insights on organizational solutions that promote ambidexterity at organizational level (Rosing et al., 2011; Brion et al., 2010; Jansen et al., 2008; Jansen et al., 2006; Gibson and Birkinshaw, 2004).
However, existent research neglect the analysis of ambidexterity at the individual level (*personal ambidexterity*). Recent literature reviews call for adopting a micro-foundation approach in organizational learning research (Foss, 2011), and specifically on delving into personal ambidexterity (Raisch and Birkinshaw, 2008; Raisch et al., 2009; Rosing et al., 2011). In this regard, Sun and Anderson (2011) stated that individual actions, and particularly managerial behaviors, may create the conditions for organizational ambidexterity.

Among the few empirical studies that addressed the ambidexterity issue at the individual level, Mom et al. define managers’ ambidexterity as a “behavioral orientation toward combining exploration and exploitation related activities within a certain period of time” (2009:812). These contributions, besides providing evidence that ambidexterity can be pursued not only at the firm level but also at the individual level, offer new insights on the organizational mechanisms (e.g. knowledge flows, decentralization, formalization) that enable managers to achieve the balance between the two learning orientations.

However, two limitations can be highlighted. First, even though the authors conceptualize individual ambidexterity as a behavioral orientation, they measure it asking the managers how they perceive their engagement in exploration and exploitation activities requested by their job. Thus, they do not investigate the concrete behaviors performed by individuals in their daily activity. In an ambidextrous organization, individuals face complex and changing job demands. Indeed, they are expected to switch between different tasks in the course of a day’s work and to partition their activities to meet the conflicting dual demands. Individuals who exhibit personal ambidexterity manage tensions in terms of different cognitive approaches and processes requested by contradictory activities, such as efficiency-oriented tasks and variability-increasing tasks (Swart and Kinnie, 2007). Thus, even if individuals correctly perceive the learning orientation expected by their organization, at the same time they might not activate consistent behaviors. The investigation of the possible inconsistence between perception and behaviors is lacking in the current research.

The second limit of the extant literature on personal ambidexterity is that despite it assumes that the challenge of pursuing dual demands on the individual level is not only a question of supporting structures but also of individuals’ characteristics, it does not provide empirical evidence on these personal antecedents, apart a recent study which finds the positive impact of motivation on individual ambidexterity (Jasmand et al., 2012). In their article, Mom et al. (2009) describe the three main characteristics of ambidextrous managers: i) they host contradictions, having the motivation and the ability to deal with conflicting situations, ii) they are multitaskers, thus they fulfill multiple activities being more generalists rather than more specialists, iii) they refine and renew their knowledge, skills and expertise. However, these characteristics have not been investigated empirically.

Addressing this theoretical and managerial gaps, our paper adopts a micro-oriented approach advancing the understanding of ambidexterity at individual level. Specifically, we extend the concept of *personal ambidexterity* by distinguishing two dimensions: the *perceived* and the *actual orientations* toward exploration and exploitation. We consider the *perceived orientation* as the orientation felt by individuals as requested to them by their job activities. This type of orientation refers to the way people feel engaged in tasks which require explorative or exploitative behaviors. We conceive the *actual orientation* as the behaviors enacted by individuals to perform contradictory activities and switch between different mindsets and action sets.

We investigate the relationships between these two dimensions, by analyzing: i) if within firms which pursue both exploration and exploitation goals, managers perceive they are engaged in explorative and exploitative activities at the same time; ii) if the behaviors they perform are consistent with their perceptions. Moreover, we aim to contribute to the analysis of the causes of match/mismatch between perceived and actual orientations. Comparing the two dimensions of personal ambidexterity and delving into the causes of the possible match/mismatch we identify the factors that mold individual level perceptions and behaviors toward a balance between exploration and exploitation or a dominance of one learning orientation.
3. Research methods

3.1 Research setting
In order to answer our research questions we conducted an explorative study investigating the learning orientation of 16 business unit managers and operational managers (assistants) of four medium enterprises located in Northeast Italy.

The selected managers lead the R&D and the Sales units that primarily face the tension between exploration and exploitation. Indeed, these units are forced both to explore, due to changes on technologies and customer demands, as well as to exploit, because of time pressures and a strong focus on efficiency. Moreover, the firms analyzed - leading companies in their sectors - were striving to combine in their innovation process both an efficiency-based and an experimentation-based perspective. In addition the firms were selected due to their strong commitment to innovation (in terms of technology and product design) as well as in their growth rate and profitability. However, in order to provide variety in the setting and to overcome the potential biases of a single case (Eisenhardt 1989; Yin 1994), we sought firms with different industry specializations, sizes and ages. Consequently, these organizations represent an appropriate setting to investigate how individuals perceive the learning orientation requested to them by the firm and if their behaviors match the perceived orientations.

3.2 Personal ambidexterity: perceived and actual orientations
The data collection relied on multiple sources, coherently with the aims of this study. According to the conceptualization of personal ambidexterity, provided in the previous section, we adopted different research techniques to measure its two dimensions. The perceived orientation toward exploration and exploitation was operationalized starting from the existing scale implemented in prior empirical studies on individual ambidexterity (Mom et al. 2007; 2009) and selecting a pool of items in order to avoid redundancy. Therefore, a closed-ended questionnaire aimed to evaluate how each respondent felt engaged in exploration and exploitation activities was administrated. Specifically, respondents had to measure on a seven-point scale (1 = “to a very small extent” to 7 = “to a very large extent”) a set of items concerning the way each respondent interprets the characteristics of his/her job activities according to his/her perception. We measured the perceptions towards exploration and exploitation calculating the mean value of the scores on the seven-point scale. We controlled the standard deviation and found that the mean value could be considered significant, due to a low variance of the answers. The mean values were then classified into three classes: Low (scores from 1.00 to 3.00), Intermediate (scores from 3.01 to 5.00) and High (scores from 5.01 to 7.00). Then, we calculated the overall learning orientation, as the result of the comparison of the orientations toward exploration and toward exploitation perceived by each respondent. If the orientations toward exploration and toward exploitation perceived by the same respondent were similar and thus have the same importance (as an example, were both high or both intermediate), the overall orientation has been considered as balanced; if the two orientations were different it means that there was a prevailing orientation (towards exploration or towards exploitation).

Concerning the actual orientation toward exploration and exploitation, data on concrete behaviors activated by respondents were collected through face-to-face interviews. In particular, these interviews were directed towards gathering a number of critical incidents linked both to the working effectiveness and to the achievement of innovative results of each interviewee, according to an adaptation of the Behavioral Event Interview technique. As highlighted by Boyatzis (1998) and Coffrey and Atkinson (1996) the critical incident interview as a form of storytelling is a valuable source of qualitative information. The request to describe the actual behaviors, related to significant performances for the unit, had the aim of understanding which behaviors the interviewees activated in order to obtain good results. We carried out a thematic analysis of the specific behaviors enacted during the described critical incidents using the content analysis methodology, which was adopted for the operationalization of exploration and exploitation also in a recent study by Uotila et al. (2009). The textual content analysis was carried out by starting from the vocabularies proposed by the literature (March, 1991), in order to link the contents that emerged from the interviews to the concepts of exploration and exploitation. According to Krippendorff...
(2004), the words and phrases mentioned more frequently in a text are those that reflect the principal arguments of the communication. The authors independently carried out the textual analysis and an inter-rater reliability of more than 90% was obtained. Then, through discussion, they debated the final coding of the words referring to exploration and exploitation. Data analysis started from the counting of the occurrences, that is the number of words associated with exploration and exploitation. For each interview we expressed the total words as a percentage of the total significant words. Finally, we transformed this percentage of the words referring to the two orientations on a scale from 1 to 7 in order to obtain a measure comparable with that of the perceptions. These values were then classified into three classes: Low (scores from 1.00 to 3.00), Intermediate (scores from 3.01 to 5.00) and High (scores from 5.01 to 7.00). We considered the two orientations as balanced when they were represented by the same class and as different when they were represented by different classes according to the criterion already used for the perceptions. The comparison between perceived and actual orientation for each respondent allows to identify the situations of consistency (matching) and of inconsistency (mismatching), as described in the findings section.

3.3 Analysis of matching/mismatching
The interview protocol adopted for the field study, in addition to gather information on critical incidents which enabled us to measure and analyze the actual orientation, presented a section aimed to collect data on individual characteristics of the interviewees which allowed us to identify some potential determinants of the possible matching or mismatching between perceived and actual orientation. Each respondent described his/her educational background, his/her professional career path (considering for instance inter-functional or inter-firm working experience), the kind of expertise he/she developed in the private and working contexts, the motivation toward his/her role, main important decisions and recent changes in the firm processes in which he/she has been involved.

By considering this information, we independently generated a preliminary classification of the determinants that could explain the matching/mismatching between perceived and actual orientation. We also relied on tables to refine the constructs and the theoretical explanations (Miles and Huberman, 1994), and we cycled among the emergent theory, case data, and literature to refine further the construct definitions until we achieved a strong consistency between the empirical findings and the emergent theory.

4. Findings
In this section we try to answer our research questions on personal ambidexterity. First, we provide the results of our analysis on the first dimension of personal ambidexterity, namely the perceived orientation. Then, we compare this dimension with the actual orientation that allows us to identify the level of matching or mismatching between these two dimensions. Finally, we identify some determinants of this kind of matching or mismatching.

4.1 Perceived orientation
The perceived orientations of the R&D and Sales managers as well as of their operational managers are reported respectively in Tables 1 and 2, section A.

Data show that most individuals perceive that their job requires both an exploratory and exploitative orientation, and this can be observed in both analyzed units and hierarchical levels. This is consistent with the fact that the companies of our sample are promoting a balanced orientations in their business units. However, we find that some individuals perceive that their job activities require to them a prevailing orientation towards exploration (see the R&D assistant of Beta, and the manager and assistant of Delta’s R&D) or exploitation (see the Sales manager of Alpha). Moreover, in some cases even if the balance is achieved, the manager and his/her assistant show a different level of intensity about the learning orientations requested to them by their job, as in the Sales unit of Beta and Delta. Since we have not found
perceptions at a low level of intensity, this seems to show that the respondents felt engaged with a certain significant intensity toward exploration and exploitation activities.

In sum, these data on individuals’ perceived orientation show that some differences emerged among individuals in terms of intensity of perceptions (high or intermediate), between individuals at different hierarchical levels (managers vs. assistants) and/or belonging to different units (R&D vs. Sales). These differences between the manager and his/her assistant who operate in the same unit, and thus face similar problems and master the same body of technical knowledge, may be symptom of organizational problems in terms of role tensions due to inadequate: i) definitions of the role expectancies, ii) transmissions of the role sent, iii) interpretation of the received role (Katz and Kahn, 1966).

### TABLE 1. PERCEIVED AND ACTUAL ORIENTATION IN THE R&D DEPARTMENT

<table>
<thead>
<tr>
<th></th>
<th>Alpha Manager</th>
<th>Alpha Assist.</th>
<th>Beta Manager</th>
<th>Beta Assist.</th>
<th>Gamma Manager</th>
<th>Gamma Assist.</th>
<th>Delta Manager</th>
<th>Delta Assist.</th>
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<td><strong>Section A: Perceived Orientation</strong></td>
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<td>Overall Perceived Orientation</td>
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<td>Balanced</td>
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<td><strong>Section B: Actual Orientation</strong></td>
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<td>Overall Actual Orientation</td>
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<td><strong>Section C: Match / Mismatch between perceived and actual orientation</strong></td>
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### TABLE 2. PERCEIVED AND ACTUAL ORIENTATION IN THE SALES DEPARTMENT

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<tr>
<th></th>
<th>Alpha Manager</th>
<th>Alpha Assist.</th>
<th>Beta Manager</th>
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<th>Gamma Manager</th>
<th>Gamma Assist.</th>
<th>Delta Manager</th>
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<tbody>
<tr>
<td><strong>Section A: Perceived Orientation</strong></td>
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<td>Overall Perceived Orientation</td>
<td>Exploitation</td>
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<td><strong>Section B: Actual Orientation</strong></td>
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<td>Overall Actual Orientation</td>
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<td>Balanced</td>
<td>Exploration</td>
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<tr>
<td><strong>Section C: Match / Mismatch between overall perceived and actual orientation</strong></td>
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4.2 Actual orientation and matching/mismatching

The findings on the second dimension of personal ambidexterity, that is the actual orientation, are reported in section B of Tables 1 and 2. Data show that ten individuals out of sixteen show behaviours that are balanced between exploration and exploitation, while the remaining individuals present a prevailing orientation toward exploration.

However, this balance between the two learning orientations is expressed more by respondents of the Sales units than by those of the R&D units. This could be explained by the fact that since their foundation small-medium enterprises of our sample have distinguished themselves for a significant effort in creative solutions in their products and services generated in the R&D unit. This is embedded in the organizational culture and continuously nurtured by the founders of the companies. On the other hand, the Sales units could be less influenced by the expectations of the entrepreneurs toward experimenting new activities, and consequently more able to distribute their behaviours accordingly to both exploration and exploitation.

Moreover, if we consider the behaviours performed at different hierarchical levels, we find that in four units out of eight managers and assistants of the same unit behave in a different way: while the assistants perform balanced behaviours, the managers are more exploratory than exploitative in their behaviours. The R&D managers and the R&D assistant of Delta represent an exception, since they both show behaviours oriented towards exploration.

Section C of Tables 1 and 2 shows the comparison between the perceived and the actual orientation. Data show that in six cases out of sixteen individuals’ perceptions are different from individuals’ behaviors. We identified two kind of mismatch: i) in four cases the perceived orientations required by the job is balanced but the individuals behave according to an exploratory learning orientation; ii) in two cases the perceived orientation is toward exploration or exploitation but they behave according to a balanced orientation. The remaining ten cases present a match between the perceived and the actual orientation. Apart the case of Delta R&D unit in which all the perceived orientations and the actual orientations are toward exploration, the individuals show a balanced orientation both in their perceptions and in their behaviors.

If we consider these results according to the business unit perspective, we find some specificities related to the R&D and Sales units. In particular, in the R&D units there are three different situations:

i. managers that present a mismatch between their perception and their behavior (the first is balanced and the latter is oriented toward exploration) whereas their assistants present a match (both balanced). This is the case of Alpha and Gamma;

ii. managers and assistants that present a mismatch, even if it is due to different reasons (the managers perceive a balanced orientation and their behaviors are oriented toward exploration, while their assistants show the opposite). This is the case of Beta;

iii. managers and their assistants present a complete match between the perceptions and their behaviors, that in the case of Delta are both oriented toward exploration.

Considering the Sales departments, there are also three different situations:

i. managers that present a mismatch between perceived and actual orientation (the first is towards exploitation and the latter is balanced) and their assistants present a match (both balanced). This is the case of Alpha;

ii. managers that present a mismatch between perceived and actual orientation (the first is balanced and the latter is towards exploration) and their assistants present a match (both balanced). This is the case of Delta;

iii. managers and assistants present a complete match between perceptions and behaviors. This is the case of Beta and Gamma.

This comparison underlines a significant difference between different units inside the same firm: there are no similarities in terms of learning orientation between R&D and Sales units within the same firm.

If we analyze the hierarchical levels of the respondents, these results highlight that a match between perceptions and behaviors seems to be more frequent in the assistants than in the managers. This means that neither the managers’ perceptions nor their effective behaviors seem to influence their assistants’ perceptions and behaviors.
The overall conclusions that can be drawn from our findings is that the two dimensions that we propose as components of the personal ambidexterity are distinct and independent. Perceived and actual orientations emerge in various different combinations creating a mismatch at individual level as well as some inconsistencies between different hierarchical levels and between business units. This calls for a more in-depth investigation on the determinants which favor or hamper the matching or the mismatching between the two dimensions of personal ambidexterity.

4.3 Determinants of matching/mismatching between perceptions and behaviors

The process of identification of the determinants, discussed in the method section, led us to identify four typologies of situations of matching/mismatching between perceptions and behaviors that can be associated to specific causes illustrated in Figure 1.

**Figure 1. Causes of match/ mismatch between perceived and actual orientation**

<table>
<thead>
<tr>
<th>Match</th>
<th>SITUATION 1</th>
<th>SITUATION 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Inter-firms and inter-functional experiences</td>
<td>• Cognitive approach, competences and expertise coherent with a specific learning orientation still dominant in the organizational context</td>
</tr>
<tr>
<td></td>
<td>• Commitment toward conciliating multiple requests</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Continuous learning approach</td>
<td></td>
</tr>
<tr>
<td>Mismatch</td>
<td>SITUATION 4</td>
<td>SITUATION 3</td>
</tr>
<tr>
<td></td>
<td>• Inter-firms experiences in different sectors</td>
<td>• Experiences in the same function and primarily in the same company</td>
</tr>
<tr>
<td></td>
<td>• Continuous learning approach</td>
<td>• Personal traits toward a specific learning orientation</td>
</tr>
<tr>
<td></td>
<td>• Awareness to act as a boundary spanner across the company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Autonomy and initiative in deciding how to manage their time</td>
<td></td>
</tr>
</tbody>
</table>

The **first situation** characterizes individuals who show a match between perceived and actual orientation that are both balanced. The individuals maintain they perceive to be engaged in activities that ascribe the same level of importance to both learning orientations and they behave coherently to this perception. The analysis of the personal factors show they distinguish themselves for inter-firms and inter-functional experiences and the capability to flexibly face different requests coming from their role and interfaces. Prior working experiences helped them to better recognize the expectations sent from the firm reducing the causes of role tensions like ambiguity (unclear information about role expectations) and conflict (incongruity of the different role expectations). Moreover, an inter-functional working experience, in the same or in other firms, can affect the type of knowledge possessed, namely increase the depth of knowledge in a certain field and consequently encourage exploitative activities (Jansen et al., 2006). On the other hand, it can improve the capability of perspective taking (and therefore exploitation), but also increase psychological security which encourages exploratory activities (Un, 2007). In addition, they also characterize themselves for a strong effort toward conciliating multiple requests and a continuous learning approach.

In the **second situation** individuals show a match between perceived and an actual orientation which are not balanced but present a dominance of exploration or exploitation, as in the case of Delta R&D unit. Whereas the firm is striving to promote a balanced orientation between exploration and exploitation, the
R&D business manager and his assistant perceive their role and behave according to an exploratory orientation. Until recently, this company has been characterized by a strong focus toward exploration. Specifically in the R&D unit, individuals have been recruited according to criteria like previous working experience in R&D activities, creativity, flexibility, commitment toward the continuous scanning of cutting-edge solutions in the industry. In the past years the firm invested in new roles and activities with the aim of pursuing a more balanced orientation between experimentation and implementation. The process of definition of the new role expectancies, their transmission and correct interpretation had just started and this can explain why the individuals belonging to this unit still felt engaged more in exploratory activities and behave coherently.

The third situation characterizes individuals who perceive a balance between exploration and exploitation but their behaviors are dominated by one of the two learning orientations. Specifically, in the analyzed cases, the R&D manager of Alpha, Beta and Gamma as well as the Sales manager of Delta show an actual orientation toward exploration. From the analysis of the personal factors turned out that these individuals matured their working experiences in the same business unit primarily in the same company. They show a cultural approach toward innovation and they are also motivated by a strong achievement motive toward the attainment of challenging results in terms of new creative solutions that overtake the current firm’s offer. From the interview emerged that these individuals are aware of the expectancies transmitted by the companies of conciliating both learning orientations in their role, but they interpret their role differently. Their personal traits (for instance the strong passion for experimentation and discovery) and the long lasting experience in the same organizational context seem to legitimate their behaviors toward exploration and can be the causes of the mismatching between the perceived and the actual orientations.

In the fourth situation individuals perceive they felt engaged in activities that encourage one of the two learning orientations (exploration or exploitation) but they show a balanced actual orientation. Specifically, the perceived orientation of the Alpha Sales manager is toward exploitation and of the Beta R&D assistant is toward exploration. The personal factors that characterize the individuals ascribed to this situation are similar to those identified in the first situation: inter-firms experiences in other sectors and continuous learning. Moreover, from the interviews turned out their awareness to act as a boundary spanner across the company. Indeed, over time the individuals enlarge their job adding progressively new tasks that imply a frequent interaction with different units. They are characterized by the capacity of establishing and managing relationships, promoting teamwork and collaboration, conciliating multiple requests. Furthermore, they depicted themselves as person with a high degree of autonomy and initiative in deciding how to use their time when they perform the job. In these cases the mismatching be could ascribed to an inadequate definitions of the role expectancies and transmission to the role holders who perceive to be engaged only in a set of activities promoting exploration or exploitation, when they are able to perform behaviors that achieve the balance between the two orientations.

5. Conclusions and managerial implications

This study presents two important contributions. First, it provides new insights on the individual dimension of contextual ambidexterity, still underdeveloped in the extant literature. Specifically, we conceptually define and empirically test two dimensions of personal ambidexterity: the perceived and the actual orientations toward exploration and exploitation. Our findings show that, despite a common effort of the sampled firms to spur a balanced orientation across business units and hierarchical levels, the concrete behaviors performed by individuals might not be consistent with their perceptions on the learning orientation requested to them by their job. This result confirms that the components of the personal ambidexterity are distinct and independent, and that the analysis of the perceived orientation needs to be complemented with the observation of the concrete behaviors. Second, this research sheds light on the factors that favor or hamper the matching or the mismatching between the two dimensions of personal ambidexterity. The four situations classified allowed us to identify the personal antecedents that enable the
consistency between perceived and actual orientation (matching) and those that explain the mismatching between the two dimensions.

From these findings some managerial implications can be drawn. First, the exclusive analysis of the perceived orientation offers only a partial perspective. Indeed, even if individuals could perceive the learning orientation expected by their firm, at the same time they might not activate consistent behaviors. Firms need to be aware of the complexity of achieving personal ambidexterity and to implement the assessment of both individual perceptions and behaviors. The collection of data on actual orientation can be carried out drawing on direct observations or interview protocols that enable to capture the concrete behaviors performed by individuals in their daily activities and classify them according to the two learning orientations (exploration and exploitation) through content analysis. This paper has also provided a methodology for evaluating and comparing the actual and perceived orientations. Moreover, the analysis of the personal factors of matching/mismatching provides, on the one hand, insights on the individual characteristics that can be promoted in order to nurture ambidextrous roles and, on the other hand, some levers that managers can use to intervene and solve potential tensions in terms of definitions of the role expectancies, their transmissions and interpretation.

REFERENCES


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