Not all sales performance is created equal: personality and interpersonal traits in inbound and outbound marketing activities

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ABSTRACT

*A long tradition of research has shown that personality traits, such as extraversion and agreeableness, and interpersonal constructs better predict job performance with a tacit but not explicit distinction in sales marketing activities. In this contribution, we aim to understand the role of job-related and interest data, interpersonal, and personality traits in affecting either inbound or outbound marketing activities and the overall sales performance. An original questionnaire integrates the interpersonal traits and personality factors reported in the literature in sales marketing activities (*independent variables*). The results were matched with the individual job-related and interest data (*control variables*) and sales performance (*criterion variables*) – expressed as the total number of closed contracts over the inbound/outbound related contacts of employees with responsibility in marketing activities for a large banking group. We are able to identify the relevant predictors of sales performance by creating full binary trees using control and independent variables in conditional inference forests and variable importance index measures. Higher performers in either inbound or outbound marketing activities rely on distinct personality sub-traits, which have fundamentally essential implications for interpersonal functioning, and personal data when agreeableness is central to the ability to function effectively in the interpersonal realm of sales activity.*

Key words
*Personality traits • Interpersonal traits • Sales performance • Dutifulness • Openness to experience •
Conditional inference forests*

Introduction

The investigation of the psychological traits related to job performance is a classic topic, whose academic reflection presents a long-standing tradition. The investigation on how personality traits affect job performance has represented a very debated research topic over decades, even with the use of meta-analytic approaches (Barrick, Mount and Judge, 2001; Hurtz and Donovan, 2000; Tett, Jackson and Rothstein, 1991). The relationship between personality and job performance has been a significant research domain during the last century, intending to apply the corresponding measurement in the organizational context (Rothmann and Coetzer, 2003; Barrick, Mount and Judge, 2001). Personality traits are described as consistent subjective characteristics and "propensities to behave in an identifiable way in light

of situational demand", thus further highlighting the mutual dependency between individual tendencies and environmental demands (Tett and Burnett, 2003). Despite the concern about the low predictive power on behaviors derived from personality measurement, Penney et al. (2011) clarified that the personality-performance relationship needs a proper definition of the situational moderators in which the predictions are applied. Likewise, the five classic personality traits are not neutral to the specific situation, as they are crucial factors in unstructured jobs in which individuals make discretional choices (Judge, and Zapata, 2015). This situation is also consistent with meta-analytic results showing a correspondence between occupational types and personality traits (Barrick, Mount, and Gupta, 2003). Within these pieces of evidence, sales performance represents a unique target to extract a correspondence between job results and subjective predispositions.

Sales performance is not a monolithic notion. In more recent years, the distinction between outbound and inbound marketing activities is emphasizing two different sales logic (Vernuccio and Ceccotti, 2015). The primary difference between inbound and outbound sales is how the lead is originated. While inbound marketing is based on pull-logics to attract those potential customers that are actively looking for specific solutions, outbound marketing is based on the more traditional logic of pushing messages – "interruption marketing" – toward an allegedly interested audience (Bleoju et al., 2016). There are reasons to think that the performance in inbound and outbound activities require different interpersonal abilities, characterized by different personality facets. This topic remains an underexplored domain of research.

In this contribution, we aim to understand how interpersonal constructs and personality traits affect sales performance, represented herein by the number of closed contracts over the number of contacts in 30 months, using the conditional inference forest model to classify the inbound and outbound marketing domains. Our investigation allows a novel modelling approach that includes personality and interpersonal dimensions, personal and job-related data, also providing novel insight into the distinction between the two categories of marketing activities. The main hypothesis is sales performance in inbound and outbound marketing activities relies on different but

specific traits, whose divergence from the implicit interpersonal traits is associated with goal-directed behaviors in sales situations.

Theoretical background

Individual and interpersonal facets of the Five Factors Model of personality

The well-known Five Factors Model (FFM) has become a theoretical benchmark to investigate how the individual stable personality patterns could fit specific job roles (Vinchur et al., 1998). Over decades, several alternatives to the FFM have been reported, derived from the different factorial methods used by authors, such as the Six Factor Personality Questionnaire (SFPQ), one of the extensions of classical structure (Jackson, Paunonen, et al., 1996), or the Hogan Personality Inventory (HPI), widely used in job assessment and research (Hogan and Hogan, 1997, 2007). A number of arguments emerge from the literature specifically for each dimension in models since there is clear evidence that job performance typically depends on high levels of specific traits (McCrae and Costa, 2003). Specifically, although not intrinsically interpersonal and not explicitly associated with sales activity, neuroticism, openness, and conscientiousness are positively related to all types of job performance (Le et al., 2011; Grant and Schwartz, 2011; Hofstee et al., 1992; Salgado, 1997).

Openness to experience refers to an individual willing to listen to others' ideas and perspectives, making it a well-tailored dimension in understanding customers and their needs (Barrick and Mount, 1991; Borghans, Duckworth, Heckman, and Ter Weel, 2008). Besides, conscientiousness was shown to be the personality trait that is more relevant to job performance (Johnson and McGeoch, 1997). The conscientiousness trait is based on being organized, efficient, and careful, being, therefore, an essential trait for an individual who desires to work in a sales organization (Sung and Choi, 2009). In line with a large-scale meta-analysis that investigated the relationship between the FFM and job performance across five occupational groups (Barrick and Mount, 1991), subsequent research findings support the notion that conscientiousness is the personality dimension that shows the strongest correlation, out of all personality dimensions, with overall job

performance across occupations (Barrick et al., 2001; Hurtz and Donovan, 2000; Ones and Viswesvaran, 1996; Salgado, 1997; Vinchur et al., 1998).

About the interpersonal constructs of the FFM, extraversion and agreeableness are the most relevant factors in correlating personality traits with interpersonal functioning in social situations and their influence on sales performance (Barrick, Mount and Judge, 2001; Barrick and Mount, 1991). For example, agreeableness is relevant in job situations that involve social relationships, such as cooperating and helping others and is related to "traits such as trust, cooperation, flexibility, tolerance, and "soft-heartedness"" (Mount, Barrick and Stewart, 1998; Vinchur et al., 1998). On the same side, extraversion is a significant predictor of job performance (Blickle et al., 2015), specifically in facilitating interpersonal interactions, as suggested by Barrick, Mount and Judge (2001): "In such jobs, such as sales and management, being sociable, gregarious, assertive, energetic and ambitious is likely to contribute to success on the job". More recent research shows that the relation between extraversion and job performance is not linear but curvilinear (inverted U-shaped) to the extent that too much extraversion becomes a contraindication. Indeed, subjects in the middle of the introversion-extroversion continuum -ambiverts- achieve better sales performances, based on the idea that "too much of a good thing is a bad thing" (Grant, 2013; Wihler et al., 2017). Grant (2013) argues that "extraversion may have diminishing returns and increasing costs". The reasons are that extroverted salespeople tend to focus more on their views than on the customers, and, at the same time, customers tend to consider too-much enthusiastic salespeople as trying to influence them. This combination can lead to major effects on interpersonal functioning. Grant (2013) discussed this evidence emphasizing that the relation between extraversion and sales is not universal and does not apply to several situations (Furnham and Fudge, 2008; Stewart, 1996).

Far from being an ultimate result, the interdependence of extraversion and agreeableness is not meant to be exhaustive but instead is offered as an example of traits that are interpersonal in nature or that have fundamentally essential implications for interpersonal functioning. Extraversion and agreeableness can be considered coarse-grained measures, but they are not able, alone, to articulate the specific psychological facets involved in successful interactions with clients.

Hypothesis 1: *Employees responsible for interacting with customers score high on agreeableness and extraversion.*

Hypothesis 2: *Agreeableness and extraversion directly correlate with specific personality traits.*

Hypothesis 3: *Interpersonal traits rooted in agreeableness and extraversion are correlated with high sales performance.*

Interpersonal functioning in sales activity

The relationship between personality traits and job performance has been mainly analyzed within the FFM framework, but the FFM, among which extraversion and agreeableness, can be considered not fully adequate to articulate specific facets of interpersonal abilities.

Nilsen (2017) reported how interpersonal traits affect sales performance through the NEO personality, which assesses 30 facets, six for each FFM (McCrae and Costa, 2005, 2010). The results are consistent with previous studies and show that, concerning the dimensions of extraversion and agreeableness, the warmth was positively related to sales performance. Some other inventories specifically aim to address the interpersonal traits as valid candidates and shed light on high performers' relational abilities in sales. The Interpersonal Circumplex (IPC) has been demonstrated to refine the global traits' extraversion and agreeableness. Based on the dimensions of warmth and dominance the International Personality Item Pool-Interpersonal Circumplex (IPIP-IPC) can define eight profiles – arranged in octants in a circular ordering –, which offer a fine-grained representation of interpersonal traits (Markey and Markey, 2009; Wiggins, 1979).

McCrae and Costa (1989) demonstrated that the IPC corresponds to the FFM portion that includes extraversion and agreeableness. In their words, "the interpersonal circumplex and the five-factor model thus appear to be complementary models of personality. The five-factor model provides a larger framework in which to orient and interpret the circumplex, and the interpersonal circle provides

a useful elaboration about aspects of two of the five factors – Extraversion and Agreeableness – and their combinations". It is important to notice that although they complement, their origins are radically different (McCrae and Costa, 1989). While the FFM is a way to summarize some personality traits measures presented in previous literature empirically, the IPC has its origins in interpersonal psychiatry. This possible integration between an interpersonal interpretation of the FFM and the IPC is also underlined by Braford and colleagues (2015), describing the dimension of extraversion and agreeableness as a 30-degree rotational variation of dominance and warmth in the inter-personal circumplex itself.

Our purpose of targeting a specific marketing field with a defined role and integrating personal information about participants could raise the capability to discriminate specific patterns of goal-oriented behavior and their influence on interpersonal functioning.

Based on these pieces of evidence and previous literature, we can therefore formulate the following hypothesis in our study:

Hypothesis 4: *The personality and interpersonal traits associated with high sales performance are different between inbound and outbound activities.*

Method

Participants and Procedure

A total of 500 employees of a large banking group were asked to participate. The study was conducted under a protocol approved by the Area Vasta Nord Ovest Ethics Committee (protocol n. 24579/2018). 372 completed an original questionnaire with a response rate of 74.4%. Participation was voluntary and was not rewarded. All participants were responsible for providing and closing insurance contracts and other financial services to prospective customers. Participants filled out an online survey consisting of the personality and interpersonal constructs as previously validated. As the participants' firm's corporate language is Italian, the participants completed all questionnaires in Italian. Completing the survey took approximately 30 minutes (*independent variables*). The branch

managers of the sales employees provided the individual sales performance for both inbound and outbound marketing activities that were gathered over 30 months from January 2016 to May 2018 (*criterion or dependent variables*), while the Human Resources unit provided the personal and job-related data (*control variables*) (Table 1).

Questionnaire

To measure personality and interpersonal traits, we built and validated an original questionnaire, which includes 32-items Likert-scale based IPIP-IPC that identifies eight interpersonal profiles: Warm Agreeable, Gregarious Extravert, Unassuming Ingenuous, Unassured submissive, Assured dominant, Arrogant calculating, Cold Hearted, Aloof Introvert (Markey and Markey, 2009). As previously discussed, IPIP-IPC is able to cast light on extraversion and agreeableness as they are embodied in interpersonal relations (DeYoung, 2013).

To investigate personality factors that are not explicitly interpersonal, we considered the Six Factor Personality Questionnaire (SFPQ). The SFPQ can replicate a number of dimensions of the FFM and articulate the Conscientiousness by distinguishing between the distinct constructs of Methodicalness and Industriousness (Jackson and Tremblay, 2002; Jackson, Ashton, et al., 1996; Jackson, Paunonen, et al., 1996). The resulting dimensions and their facets that we considered in our questionnaire are Independence, Openness to Experience, and Industriousness. Dutifulness was added from the Hogan Personality Inventory (HPI) as it is able to catch some skills that are relevant in several sales jobs but not included in the more general and overly outlined Consciousness of the FFM (Hogan and Hogan, 1997, 2007).

Therefore, the resulting questionnaire was based on 77 items measuring 12 constructs, using a 5-point Likert scale. The questionnaire was validated by pretesting on 314 subjects through Amazon Mechanical Turk. Factors with a saturation of 0.42-0.45 were extracted by applying unweighted least squares with varimax rotation – orthogonal rotation with Kaiser normalization. Rotation converged after 8 iterations (Table 2).

The alpha reliabilities were adequate with an Alpha's Cronbach greater than 0.70 (Table 3).

Tab. 1 - List of variables.

Type	Variable	Description
Dependent variables	Total performance	The number of contracts closed, divided by the overall number of contacts
	Outbound marketing-performance	The number of outbound contracts closed, divided by the number of outbound contacts
	Inbound marketing-performance	The number of inbound contracts closed, divided by the number of inbound contacts
Independent variables	Arrogant Calculating Cold-Hearted Assured Dominant Gregarious Extravert Unassuming Ingenuous Aloof Introvert Unassured Submissive Warm Agreeable	Interpersonal traits
	Dutiful Independent Industrious Open to Experience	Personality traits
Control variables	Gender Age Level and field of education	Personal Data
	Reference banking group Branch location Length of service Length of service within the same department Personal or retail agency Career level Part-time/full time Working hours/week	Job Data
	Well being Health Reading Sport Technology Travels	Interests

The number of items in the final questionnaire was reduced by the previous factor analysis from 77 to 70 items in a 5-point Likert scale ranging from strongly disagree to strongly agree, which were able to measure the original IPIP-IPC-associated eight dimensions, Dutifulness, Independence, Industriousness and Openness to Experience. Results from the pre-tested survey "Discover your worker skills!" in Amazon M Turk and its final and translated version are available in the Open Science Framework OSF: https://osf.io/jd3wg/.

Conditional Inference Forests

Linear models are often too restrictive for data in which significant interactions and nonlinear effects occur, as they do not provide any information either on the order of predictors or in their conditional effects. Therefore, this study uses a more flexible approach based on conditional inference trees (CIT) and the corresponding inference forests (CIF) (Breiman, 2001). This approach allows us to determine the relevant variables affecting the performance indicators and important interaction effects among predictors. Appendix 1 outlines the general algorithm for building a conditional inference tree as presented by Hothorn et al. (2006). A single tree is considered unstable, which happens when a small perturbation in the sample composition induces significant changes in the tree's structure. A tree's stability becomes a relevant issue when the number of covariates is high, the sample size is small, or the data is particularly noisy (Breiman, 1998; Bühlmann and Yu, 2002). Therefore, the aggregation of multiple unstable models leads to stable predictions. We use a bootstrap resampling technique to aggregate multiple CIT and obtain

Tab. 2. Rotation Method: Varimax with Kaiser Normalization.

	Component			
	1	2	3	4
OPENNESS TO EXPERIENCE				
VAR00001	-.040	-.162	.075	.594
VAR00002	-.255	-.312	-.051	.407
VAR00003	.156	-.075	.095	.610
VAR00004	.236	-.105	.106	.548
VAR00005	-.257	.028	-.123	.240
VAR00006	.114	.118	-.059	.688
VAR00007	.161	.091	-.038	.686
VAR00008	-.082	-.050	-.079	.445
VAR00009	-.229	-.280	-.091	.331
VAR00010	-.026	.027	-.065	.462
DUTIFULNESS				
VAR00011	-.234	.287	-.175	-.175
VAR00012	.472	-.142	.202	.072
VAR00013	.579	.099	.234	.108
VAR00014	.465	-.248	.083	.121
VAR00015	.579	.052	.215	.042
VAR00016	.562	.009	.157	.082
VAR00017	.459	-.141	-.059	.009
VAR00018	.759	-.078	-.095	-.035
VAR00019	.731	-.067	-.103	-.079
VAR00020	.687	-.066	-.006	-.046
VAR00021	.617	.064	.000	.017
INDUSTRIOUSNESS				
VAR00022	.199	.342	.545	.126
VAR00023	.009	.167	.523	-.056
VAR00024	-.209	-.272	.534	-.153
VAR00025	.276	.301	.391	.254
VAR00026	.010	.034	.686	-.036
VAR00027	-.165	-.094	.623	-.162
VAR00028	.371	.233	.415	.250
VAR00029	.249	.138	.501	.157
VAR00030	.318	.145	.465	.089
VAR00031	.019	.172	.482	-.093
VAR00032	.293	.166	.555	-.071
VAR00033	.236	.314	.388	-.060
VAR00034	.259	.373	.288	.114
INDEPENDENCE				
VAR00035	.256	.342	.282	.102
VAR00036	.097	.474	.039	.272
VAR00037	-.207	.640	.275	-.120
VAR00038	-.165	.705	.252	-.052
VAR00039	-.223	.706	.293	-.075
VAR00040	-.016	.458	.103	-.022
VAR00041	-.234	.567	.245	.038
VAR00042	-.089	.626	.122	.019
VAR00043	-.011	.391	.026	-.250
VAR00044	.034	.614	-.088	-.140
VAR00045	-.017	.674	-.065	-.039

Tab. 3 - Reliability of each factor.

FACTORS	Cronbach's alpha	N of items
Openness to Experience	.85	10
Dutifulness	.84	11
Industriousness	.78	13
Independence	.76	11

a robust CIF (Appendix 1). With respect to other partitioning techniques and classification methods, the CIF model's main advantage is that it considers the distributional properties of the variables, leading to results that are robust to the structure of the dataset. In particular, the aggregation process weighs individual subsample observations according to the number of times a training observation enters the same terminal node.

Note that when covariates vary in their measurement scale or number of categories, random forests are biased in favor of variables with many potential cut-points, whereas CIF generates unbiased results (Hothorn et al., 2006; Strobl et al., 2007; Strobl et al., 2009).

The final output has the form of a full binary tree or dendrogram describing the patterns of variables associated with high sales performance. Moving down the tree, we find clusters containing increasingly similar responses for the dependent variables. The term binary implies that each group of respondents, represented by a node in a regression tree, can only be split into two groups. Thus, each node can be split into two other nodes, and so on. The tree will end with a set of terminal nodes representing the final partition of the observations.

Variable Importance Index

Unlike the P-value, which assesses a variable in terms of statistical significance and gives no insight into how important a variable is to the scientific problem, the random forest variable importance (VIMP) index measures the importance of a variable in terms of prediction error. The prediction error is

Tab. 4 - Descriptive statistics.

Variable	mean	sd	min	p25	p50	p75	max
Sales performance (dependent variables)							
Total[1]	0.136	0.035	0.051	0.115	0.131	0.151	0.309
Outboud Marketing[2]	0.109	0.027	0.039	0.092	0.105	0.123	0.247
Inbound Marketing[3]	0.480	0.170	0.120	0.350	0.466	0.592	1.018
Interpersonal traits (independent variables)							
Arrogant calculating	2.31	0.529	1	2	2.25	2.75	4
Cold hearted	2.50	0.468	1.25	2.25	2.5	2.75	4
Assured dominant	3.43	0.468	2	3.25	3.5	3.75	4.75
Gregarious extravert	3.7	0.556	1.75	3.25	3.75	4	5
Unassuming ingenuous	3.7	0.404	2	3.5	3.75	4	5
Aloof introvert	3.05	0.477	1.75	2.75	3	3.25	4.5
Unassured submissive	3.7	0.535	2	3.25	3.75	4	5
Warm agreeable	4.31	0.375	3	4	4.25	4.5	5
Dutiful	0.847	0.113	0.425	0.775	0.85	0.925	1.1
Independent	0.451	0.098	0.214	0.393	0.464	0.536	0.714
Industrious	0.803	0.096	0.5	0.75	0.8	0.875	1.05
Open to experience	0.704	0.125	0.35	0.625	0.7	0.8	1
Job data (control variables)							
Reference banking group[4]	2.08	1.89	1	1	1	2	8
Geo-position[5]	2.56	1.05	1	2	3	3	4
Length of service (years)	14.25	6.91	3	10	11.5	17	39
Length of service in the same dept. (years)	10.7	8.37	0	3	9	14	39
Personal or retail agency[6]	1.72	0.447	1	1	2	2	2
Career level[7]	2.99	1.23	1	2	3	4	7
Part-time/full-time[8]	1.08	0.277	1	1	1	1	2
Working hours/week[9]	36.8	2.28	25	37.5	37.5	37.5	37.5
Personal data (control variables)							
Gender[10]	1.34	0.476	1	1	1	2	2
Age (years)	39.6	6.3	25	35	38	44	61
Level of education[11]	7.37	1.96	1	6	9	9	9
Field of education[12]	37.3	16.9	1	27	30	53	84
Interests (control variables)[13]							
Well being	0.320	0.467	0	0	0	1	1
Health	0.261	0.440	0	0	0	1	1
Reading	0.140	0.347	0	0	0	0	1
Sport	0.220	0.415	0	0	0	0	1
Technology	0.462	0.499	0	0	0	1	1
Travels	0.562	0.497	0	0	1	1	1

[1] Overall number of contracts divided by the overall number of contacts. [2] Number of outbound contracts divided by the number of outbound contacts [3] Number of inbound contracts divided by the number of inbound contacts [4] 1 = 2000, 2 = BT00, 3 = FV00, 4 = KF00, 5 = PD00, 6 = PT00, 7 = R200, 8 = XF00 [5] 1 = Centre, 2 = North East, 3 = North West, 4 = South. [6] 1 = personal, 2 = retail agency [7] 1 = 3A/1, 2 = 3A/2, 3 = 3A/3, 4 = 3A/4, 5 = QD/1, 6 = QD/2, 7 = QD/3 [8] 1 = full time, 2 = part time [9] Number of hours worked per week. [10] 1 = female, 2 = male.
[11] 1 = Vocational School 2 = Postgraduate degree 3 = Higher Diploma 4 = Bachelor degree, 5 = 1st level Specializing Master, 6 = Single-cycle Master program, 7 = 2nd level Specializing Master, 8 = Junior High School, 9 = High School [12] Range from 1 to 82 based on The Italian Ministry of Education, Universities and Research.
[13] 0 = I am not interested, 1 = I am interested.

Tab. 5 - Value of Pearson's correlation analysis between interpersonal and personality traits (***p < 0.001, **p < 0.01, *p < 0.05).

	Assured Dominant	Arrogant Calculating	Cold Hearted	Aloof introvert	Unassured submissive	Unassuming ingenuous	Warm Agreeable	Gregarious Extravert	Independent	Open to experience	Industrious	Dutiful
Assured Dominant	1											
Arrogant Calculating	0.416 ***	1										
Cold-Hearted	-0.121 **	0.003	1									
Aloof Introvert	-0.276 ***	-0.154 ***	0.188 ***	1								
Unassured Submissive	-0.369 ***	-0.453 ***	0.109 **	0.441 ***	1							
Unassuming Ingenuous	-0.115 **	-0.299 ***	-0.08	0.094 *	0.264 ***	1						
Warm Agreeable	0.193 ***	-0.193 ***	-0.290 ***	-0.122 **	0.046	0.327 ***	1					
Gregarious Extravert	0.358 ***	0.071	-0.105 **	-0.402 ***	-0.289 ***	0.009	0.395 ***	1				
Independent	0.01	0.037	0.272 ***	0.123 **	0.152 ***	0.06	-0.068	-0.049	1			
Open to experience	0.320 ***	0.045	-0.093 *	-0.035	-0.099 *	-0.02	0.274 ***	0.288 ***	0.167 ***	1		
Industrious	0.104 **	-0.002	-0.174 ***	-0.024	0.015	0.057	0.234 ***	0.081	-0.125 **	0.078	1	
Dutiful	-0.171 ***	-0.351 ***	0.046	0.090 *	0.327 ***	0.204 ***	0.077	-0.034	-0.013	-0.229 ***	0.107 **	1

a quantity that describes how well a model performs over new data without making any assumptions regarding the truth of the model (Williamson and Feng 2020). VIMP can be used as a tool guiding the selection of predictors for the final model. Since VIMP is the difference in out-of-bag prediction error before and after permutation, a large VIMP value indicates that misspecification detracts from the forest's predictive accuracy. VIMP close to zero indicates the variable contributes nothing to predictive accuracy, and negative values indicate the predictive accuracy improves when the variable is misspecified. In the latter case, we assume noise is more informative than the true variable. As such, variables with negative and near-zero values of VIMP are ignored, relying on large positive values to indicate that the forest's predictive power is dependent on those variables (Breiman, 2001; Ehrlinger, 2016).

Results

Descriptive statistics for the sales performance (*dependent or criterion variables*), the personality predictors (*independent variables*), and the background data (*control variables*) are reported in Table 4.

As expected, the inbound sales performance is four times higher than the outbound as the former is related to customers who are motivated and actively looking for specific solutions (mean = 0.480 vs. 0.109, respectively).

Hyp. 1 stated that the broad measure of agreeableness and extraversion, and other warm interpersonal traits would show their highest level in employees. Table 4 shows that Warm Agreeable has the highest mean in this group of employees, followed by Gregarious Extravert, Unassuming Ingenuous, and Unassured Submissive. Such profiles are located in the octants of the IPIP-IPC defined by warm dimensions, while

the mean of profiles characterized by dominance and competition are comparatively lower. These results support our first hypothesis that employees responsible for sales activities score high on interpersonal traits that are at the base of interpersonal functioning in social situations, potentially influencing sales performance. Besides, Dutifulness, a sub-trait related to Conscientiousness in the FFM, Openness to experience, and Industriousness have the highest means in the personality traits that are not explicitly interpersonal.

Table 5 shows a positive and significant correlation between the interpersonal Warm Agreeable and Gregarious Extravert, and the personality traits Open to experience and Industrious as associated with high sales performance in literature. Dutifulness, which aligns with Consciousness and a personality trait with the highest mean in employees, is positively correlated with the Unassuming Ingenuous and Unassured Submissive profiles.

These results partially support our *Hyp. 2* since Dutifulness is not directly and linearly correlated with agreeableness and extraversion, but with other octans located in the low dominance-high warm sector of the interpersonal circumplex.

In contrast with the previous linear models, the correlation among personal dimensions, background data, and job performance can be described as a hierarchy of multiple dimensions in which independent and control variables play a role. Our study used CIFs, which are quite complex tools but able to shed light on many interactions among multiple dimensions. The tree starts from the lower level of the root node and ends with a set of terminal nodes or leaves with the final partition and prediction. *Hypothesis 3* states that agreeableness and extraversion are directly correlated with high sales performance. Considering the total number of contracts over the number of contacts as a measure of sales performance in a 30-months period, the resulting full binary tree from the CIF presents a low complex structured dendrogram (Figure 1).

Though many general considerations can be formulated, best performers are open to experience (root node at depth 0) with a graduate degree (node at depth 1), which threshold values can identify several sub-trees in the CIF. Considering the independent variables of personality and interpersonal traits only, Open to experience, represented in the lower binary

tree, has the largest positive VIMP index and the most significant predictive power (Figure 2).

Hyp. 3 is thus not confirmed. Openness to experience is an independent variable that maps to the gregarious-extravert octant Warm Agreeable and Gregarious Extravert in Pearson's correlation analysis (Table 5). Agreeableness and Extraversion have not been identified as significant variables in our models for which we might speculate a direct causality dilemma.

Hyp. 4 states that the best performers, either in inbound or outbound sales, are conceptually associated with different traits. With reference to the inbound sales performance, described as the number of contracts closed over the number of inbound (office-based) contacts, employees at the beginning of the career level (3A/1 – root node at depth 0) with a low or absent interest in sport (inner node at depth 1), and defined as Dutiful with a score lower than 0.32 (range 0-1, the inner node at depth 3) is associated with a high predictive probability in performances (Figure 3).

The other employees with a higher career level (3A/2, 3A/3, 3A/4, QD/1, QD/2, and QD/3) present also significant performance but are characterized by a greater number of inner nodes and fragmentation, as presented in the highest level of the binary tree, and terminating in the interpersonal profiles of warm agreeable and unassuming ingenuous (leaf nodes); major and significant dimensions located in the lowest level of the binary tree (Fig. 3). Dutifulness is the personality trait associated with the largest positive VIMP index and the most significant predictive power (Figure 4).

Regarding the outbound sales performance, defined as the number of contracts closed over the number of outbound (telephone-based) contacts, the few best performers are open to experience as presented in the root node and the lower level of the binary tree (Figure 5).

De facto, Openness to Experience has the most relevant predictive power of performance associated with the largest positive VIMP index among the independent variables (Figure 6).

Hypothesis 4 is confirmed. Independent variables as dutifulness and openness to experience and their relation to control variables are able to discriminate the best performers either in inbound or outbound marketing activities.
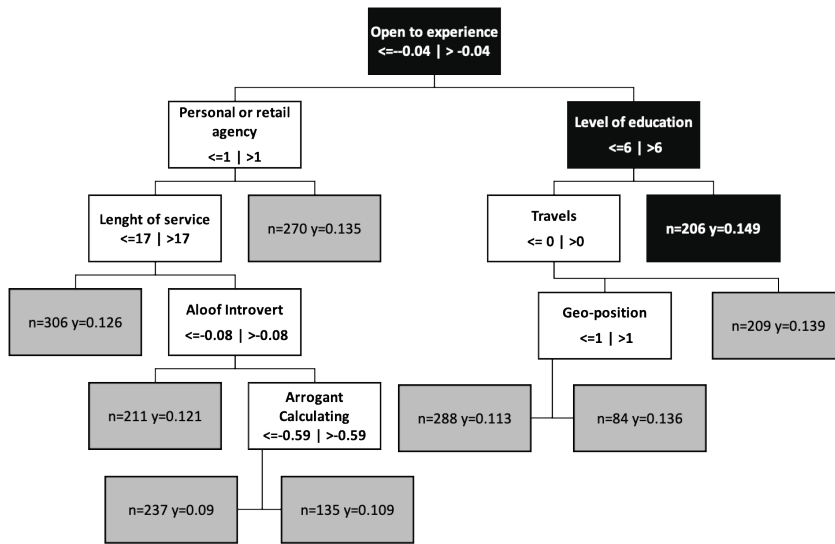
Fig. 1 - Full binary tree from the conditional inference forest of total marketing performance based on control and independent variables. Significant predictors and their splitting threshold are shown in nodes (p < 0.001), while the number of employees in each group (n) and the conditional probability (range 0-1) (y) that an employee is a high performer in grey boxes. The highest probability and the closest predictors/variables are shown in dark boxes.
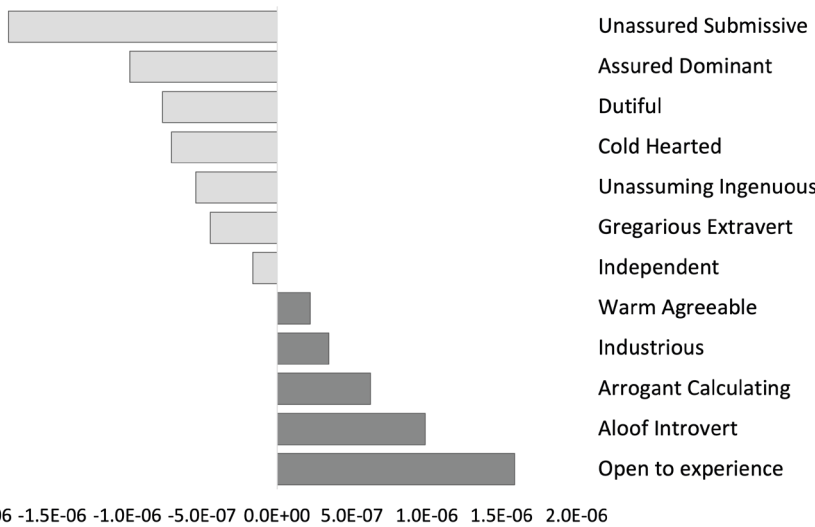
Fig. 2 - Variable importance index measures the personality and interpersonal traits in both inbound and outbound marketing activities (dark grey: significant predictive power, the CIF depends on these variables).
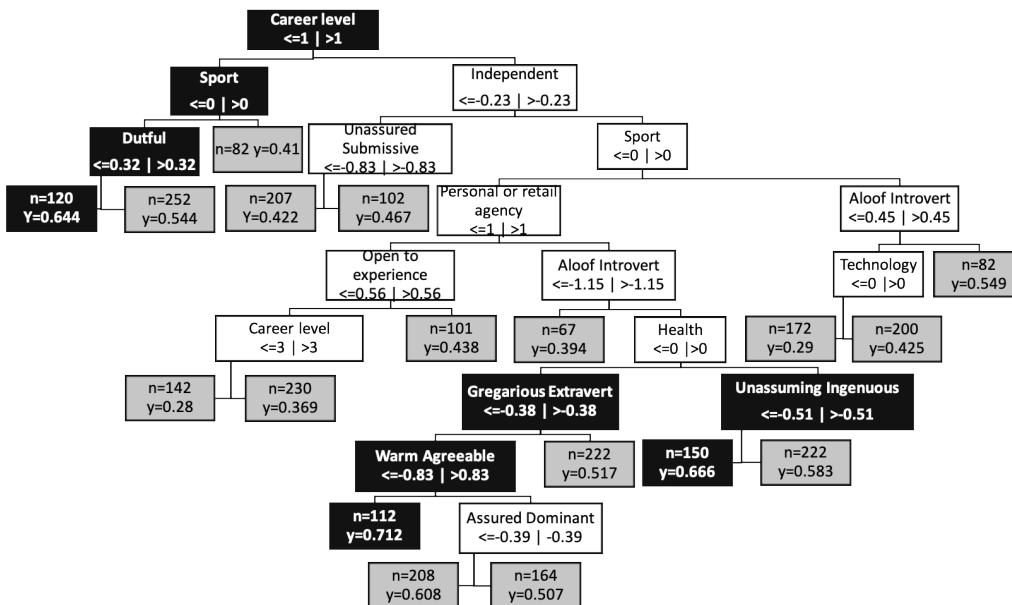
Fig. 3 - The full binary tree from the conditional inference forest of inbound marketing performance is based on control and independent variables. Significant predictors and their splitting threshold are shown in nodes (p < 0.001), while the number of employees in each group (n) and the conditional probability (range 0-1) (y) that an employee is a high performer in grey boxes. The highest probability and the closest predictors/variables are shown in dark boxes.
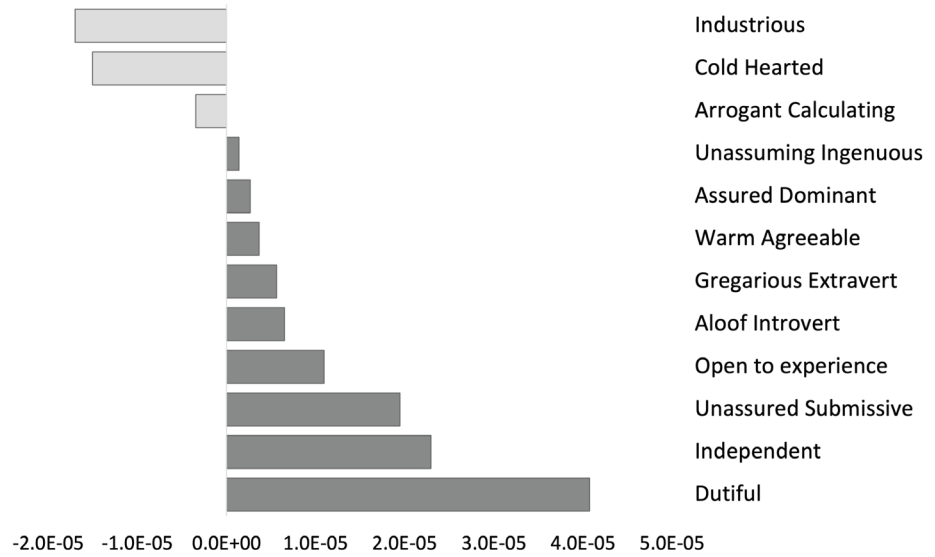
Fig. 4 - Variable importance index measures the personality and interpersonal traits in inbound marketing activities (dark grey: significant predictive power, the CIF depends on these variables).
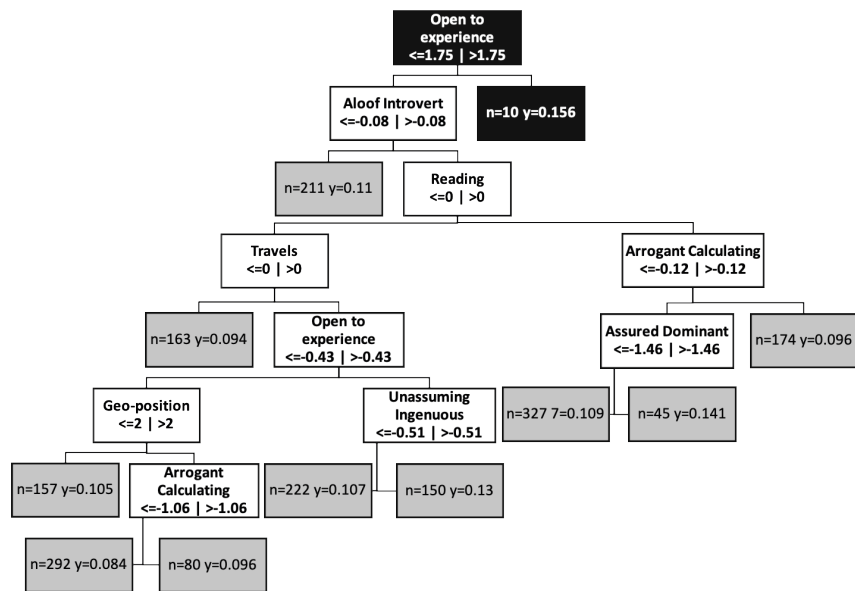
Fig. 5 - The full binary tree from the conditional inference forest of outbound marketing performance is based on control and independent variables. Significant predictors and their splitting threshold are shown in nodes (p < 0.001), while the number of employees in each group (n) and the conditional probability (range 0-1) (y) that an employee is a high performer in grey boxes. The highest probability and the closest predictors/variables are shown in dark boxes.

Discussion

This study examined the validity of personality (*independent variables*), job-related, and interest data (*control variables*) on two dimensions of job performance. The personality predictors and control variables were described for the total sales performance or subdivided into inbound and outbound marketing activities. Our research clearly shows the possibility of characterizing how these marketing contexts modulate the predictive power of individual behaviors and performances.

In doing so, we extended previous research on personality by examining criterion measures on a different level of specificity and broadness. This approach yielded significant results for discerning the personality profiles of the best performers.

Employees with the highest performance in inbound marketing activities present such facets that connote dutifulness, a subscale of the HPI, and Conscientiousness of the FFM. Besides a low interest in sports and being at early career stages, a low score in dutifulness becomes consistent with successful salespeople's better performance. A high

Fig. 6 - Variable importance index measures the personality and interpersonal traits in outbound marketing activities (dark grey: significant predictive power, the CIF depends on these variables).
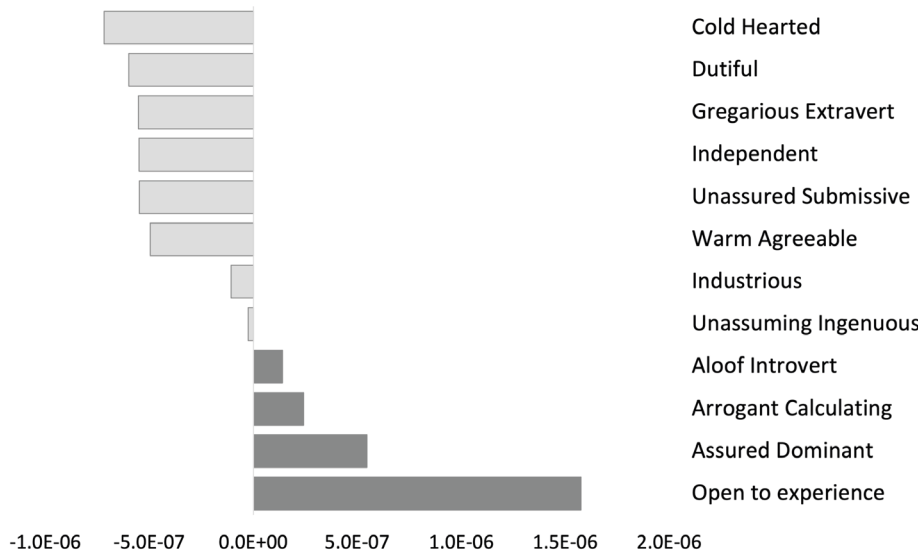
level of Dutifulness has been identified as the most detrimental to performance. Dutiful employees are characterized by being compliant, conforming, eager to please others, and reluctant to take independent action (Hogan R, Hogan J, 2009). So agreeable employees seldom criticize or complain. High Dutiful scorers are characterized by excessive timidity and conformity, as confirmed further in this work by the significant correlation with the low dominant interpersonal profiles Unassured submissive and Unassuming ingenuous in our linear regression model. As generally dutiful employees have problems making decisions and taking the initiative, a high score is associated with low performance in managers who are reluctant to take independent action (Hogan, 2016). In the specific context of services provided by a large banking group, prospective customers actively seek security and responses in the interpersonal interaction and social connection in the office and possibly close a contract. Employees with a medium-low average in Dutifulness (lower than 0.32 within a range 0-1) transmit and convey security, strength, and confidence as implicitly requested by prospective customers and, even in a more general sense, represented in the forceful leadership (Kaiser B.R. et al., 2015). This data are further supported by our results based on the variable important index measures in which Dutifulness, Independence, and Unassured Submissive traits are the variables with the most significant predictive power of success. High Dutiful scorers are seen as unassertive, indecisive, uninterested in advancement,

and satisfied with their status. They fail to take the initiative and will do what they are told to do. Based on the 3A/1 level of the National Labour Collective Agreement, employees in the career entry-level provide commercial and marketing services in branch offices with no managerial responsibility. Although the desire to please is high, the best performers in our study are the employees who, on the other hand, are independent and eager to satisfy his/her self-esteem (Hogan R. and Hogan J., 2009). Dutifulness's predictive power is higher than other well-known interpersonal variables shown in the literature, possibly because these variables have been associated with a relatively broad perspective of sales with no further categorization of the marketing activities (Barrick, Mount and Judge, 2001; Barrick and Mount, 1991).

It is not excluded that Dutifulness, a sub-trait of a collection of behaviors that resemble one another – such as being organized, disciplined, and effortful – and gather in a behavioral cluster dubbed "conscientiousness", might be present in the early but not in the later career stages since highly conscious employees adapt easier than their peers and progress in their career. Though, based on this hypothesis, we have not been able to identify a positive and significant correlation between dutifulness and employees' career level or length of service.

Extraversion, besides agreeableness, is the interpersonal factor with the greatest influence on sales performance. In our work, these facets are shown in the higher level of the full binary tree for inbound

marketing activities, next to Unassured Submissive, and correlated with the highest probability of best performance. In line with the literature for which "too much of a good thing is a bad thing" related to the inverted U-shape of extraversion – too much extraversion becomes a contraindication –, the best performers in our models score medium-low in Gregarious Extraversion (< 0.38) (Grant, 2013; Grant and Schwartz, 2011; Wihler et al., 2017). Indeed, the following sub-set of best performers are located in the medium-high Warm agreeable node (< 0.83). In line with Grant (2013), customers tend to consider too much warm and enthusiastic salespeople as trying to influence them.

Despite distinct results in inbound marketing activities, openness to experience distinctively characterizes the outbound marketing activities and the total combined performers, as the correlation between Openness and performance in sales is a well-known topic in literature (Furnham and Fudge, 2008). Openness refers to an individual who tends to be creative, imaginative, and curious about many areas of knowledge and has a wide variety of interests. Findings indicate that openness predicts success in specific occupations, which involve complex work tasks (Costa and McCrae, 1992). Furthermore, highly open individuals are more likely to adopt a learning goal orientation, which, in turn, is associated with a highly adaptive pattern of responding that includes setting challenging goals, the use of more effective learning strategies, higher levels of effort and planning, and greater feedback-seeking behavior (Payne, Youngcourt and Beaubien, 2007). Therefore, over the long term, their performance is likely to increase to a greater extent than less open individuals as they acquire a more significant amount of job knowledge and respond more adaptively to their work experiences. In our model, Openness to experience is a personality trait with the most considerable predictive power of performance in both VIMP index measures and conditional inference forests in outbound and the total marketing activities. This result contrasts with the best performers' personality profile in inbound marketing activities as being Dutiful resembles a more independent individual with poor social behavior.

As Openness to experience strongly correlates with interpersonal Warm agreeable and Gregarious extravert traits, two facets shown even in best performers for

inbound marketing activities in an advantaged stage of career, we speculate that Openness to experience predicts individual differences in job performance trajectories (Minabashian J. et al., 2013). *De facto*, higher career levels score high in agreeableness and extraversion associated with the highest probability of best performance in our work. Based on this, we hypothesized a possible correlation between the length of service in the same department and branch office, possibly associated with an upward progression of an employee's career, with the independent variables. We have not found such a significant correlation in our data. In addition to the previous hypothesis, the personality variables associated with the best performers in this study seem not to be correlated with the length of service or career levels.

Limitations

The present study had a number of strengths but was not without limitations.

First, the framework developed in this study may be dependent on the level of rigor associated with the organization's hiring standards and the characteristics of the candidates themselves. The context examined in this study is somewhat unique in that the organization's hiring standards are extremely rigorous, and candidates are highly motivated. Therefore, future research should attempt to replicate these findings in other organizations.

Second, in responding to the survey, all measures were taken at the same time after a 30-months period in which the performance data were collected. However, our study provides consistent evidence for our hypotheses. Longitudinal data would also allow for a more active investigation. For example, openness to experience likely affects agreeableness and extraversion in the interaction with customers during either inbound or outbound marketing activities. Examining the role of dutifulness and openness to experience in such correlation may provide additional theoretical insights.

Third, we would also encourage further research on a more detailed scale of dutifulness and important work behaviors. The use of the Hogan Development Survey and NEO-PI-R as a measure of a sub-clinical Dependency Personality Disorder and dysfunctional interpersonal tendencies (Furnham 2018) would help develop a better understanding of contextual factors for future research. We hope that future research

will advance these initial findings by refining our theoretical arguments and measures.

Conclusions

The traditional literature on a job-traits relationship does not integrate the data from participants' personality characteristics, habits or work tasks, and actual job performances. In this work, the sales department and activities represent a perfect context to test how durable and transversal characteristics influence job achievements through the moderation of individual habits and preferences in real life. Our results are significantly affected by the weight of control variables, particularly those related to job factors and personal interests. This type of results suggests that interpersonal abilities alone cannot be considered reliable predictors of performance but must be understood within an overall assessment.

If one wants to select personnel for rather specific and more restricted tasks, such as dealing with customers remotely over the phone or in an office-based location, the use of more narrow measures may be better. Finally, being too socially bold may be a disadvantage for some sales jobs.

Acknowledgments

APPENDIX 1

Let Y be our response variable and $X = (X_1, \dots, X_m)$ a vector of covariates. The conditional distribution of the outcome variable is an *a priori* unknown function $f(X_1, \dots, X_m)$:

$$D(Y|X) = D(Y|f(X_1, \dots, X_m)).$$

We aim at partitioning the covariate space r into different cells $(B_1, \dots, B_r)$ such that $X = \cup_{k=1}^{r} B_r$. Therefore, assuming that our sample contains n independent and identically distributed observations,

each node of a tree is represented by a vector of case $w(w_1, \dots, w_n)$ weights having non-zero elements when the corresponding observation is an element of the node and are zero otherwise. Note that in our analysis variables have been standardized.

The estimation of a conditional inference tree follows three steps. First, we test the global null hypothesis of independence between any of the input variables and the output. Formally, for any covariate j, we test $H_0^j : D(Y|X) = D(Y)$, with the global null hypothesis that $H_0 = \cap_{j=1}^{m} H_0^j$. If this hypothesis is rejected, we select the input variable with the strongest association with the dependent variable. This association is measured by a p-value corresponding to a test for the partial null hypothesis of a single input variable and the outcome. Second, we implement a binary split in the selected input variable. Finally, we recursively repeat the previous steps through the Bootstrap Resampling Technique. Let us denote with $\{(X_1, Y_1), \dots, (X_q, Y_q)\}$ a training dataset of size q and with $y_i \in \{1, \dots, C\}$ the response falling into one of C possible categories. Given the observational unit $\tilde{x}$ and the corresponding unobserved performance $\tilde{Y}$, we aim at estimating the probability that $\tilde{Y} = c$.

Denoting with the $\lambda_\tau(\tilde{x}, c)$ proportion of training observations in the same terminal node of $\tilde{x}$ that take on response c in tree τ and with $b_\tau(j)$ the number of times observation j enters the subsamples, we can estimate the probability that Y takes the value c as follows:

$$P(Y| = c|\tilde{x}) = \frac{\sum_{\tau=1}^{T} \lambda_\tau(\tilde{x}, c)\omega_\tau(\tilde{x})}{\sum_{\tau=1}^{T} \omega_\tau(\tilde{x})},$$

where $\omega_\tau(\tilde{x}) \equiv \sum_{j \in N_\tau(\tilde{x})} b_\tau(j)$, and $N_\tau(\tilde{x})$ is the set of observations lying in the same terminal node of $\tilde{x}$.

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