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PERSONALITY WITHIN INFORMATION SYSTEMS RESEARCH: A LITERATURE ANALYSIS

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Abstract

After integrating five higher-order personality traits in an extended model of technology acceptance, Devaraj et al. (2008) called for further research including personality in information systems research to understand the formation of perceptual beliefs and behaviors in more detail. To assist such future research endeavors, this article gives an overview on prior research discussing personality within the six plus two journals of the AIS Senior Basket (MISQ, ISR, JMIS, JAIS, EJIS, ISJ, JSIS, JIT)¹. Therefore, the Theory of a Person approach (ToP) derived from psychology research serves as the underlying conceptual matrix. Within the literature analysis, we identify 30 articles discussing personality traits on distinct hierarchical levels in three fields of information systems research. Results of the literature analysis reveal a shift of examined traits over the last years. In addition, research gaps are identified so that propositions are derived. Further research results and implications are discussed within the article.

Keywords: Personality, Traits, Predisposition, Theory of a Person, Literature Analysis, Technology Adoption Research, Computer Personnel Research, Higher-Order Traits, Big Five, Cognitive Style, Narrow Traits, IT-specific Narrow Traits

¹ <http://home.aisnet.org/displaycommon.cfm?an=1&subarticlenbr=346>;
<http://vvenkatesh.com/isranking/>

1 Introduction

People and personality are discussed as a major risk factor of enterprise resource planning systems in organizations (Summer 2000). On the one hand, the personality of project managers is a significant factor influencing the change management process (Chrusciel 2011) and on the other hand, employees' personality is an essential predictor for their acceptance of new information systems (IS) (Hwang 2005).

Also, based on more than twenty case studies in the field of human resources management (HRM), we observed that personality is an important predictor for e-HRM implementation success. For example, organizations introducing innovative information technology (IT) solutions for their staff recruitment, report that their recruiters react differently to such changes. A manager attaches this to recruiters' predispositions as *"innovative employees' are immediately thrilled by technological changes, whereas resistant employees' have a great need to discuss its necessity.... During several projects I realized that the same employees always perceive an innovation as either positive or negative."* In addition, similar points are made by employees. They report that personality is an important attribute of both Human Resources (HR) and IT managers while implementing e-HRM. When asked to reflect on previous managers, an employee told us that *"[in the past] projects were concluded successfully, which were supervised by visionary managers, who also thought about projects carefully and conscientiously"*.

Moreover, new recruiting methods not only affect recruiters working routines but also change the application process for candidates. Jobseekers and applicants are frightened when companies stop the sole acceptance of paper-based application portfolios and switch to the additional acceptance of email or standardized web-based application portfolios. Several managers attribute this reaction to individual differences between applicants as only candidates with low levels of anxiety use the new application forms immediately. Here, individuals who are fearful do not trust these application forms and worry about situations in which organizations deal with their digital data and documents.

These two practical examples illustrate that personality (e.g., anxiety, innovativeness, resistant, disposition to trust) has a high relevance in distinct domains (e.g., project management, technology usage). Next in relevance to such practical considerations is theoretical importance, which is emphasized by Devaraj et al. (2008) who state that *"several streams of IS research may benefit by incorporating [personality as] the big five into theoretical models"* (Devaraj et al. 2008, p. 93). Consequently, researchers call for a clearer and better understanding of the influence of personality in IS research (McElroy et al. 2007; Devaraj et al. 2008).

To support future research in this field we have provided an overview of prior IS research articles discussing personality traits (e.g., anxiety, innovativeness) in order to identify potential research gaps. These might be addressed in future research to extend the understanding of personality for success and failures of information systems as well as the understanding of technology acceptance. To this end we analyze the six plus two journals of the Association for Information Systems (AIS) Senior Basket for articles dealing with personality. The eight journals of the AIS Senior Basket are chosen as they *"represent high quality journals that speak to the information systems field as a whole rather than special areas within it"* (AIS Senior Scholars 2007, p. 3). In addition, they are the highest ranked IS-journals. In a second step, we compare our results with the status quo of psychological research. To describe the state of the art of personality in IS research we utilize the Theory of a Person approach (McCrae and Costa 2008), which encompasses all the important dimensions of personality and as such serves as the underlying conceptual matrix of the subsequent literature analysis. The literature analysis follows the guidelines proposed by Webster and Watson (2002), and, based on the results, the article discusses how IS research might use concepts of personality research in order to gain a deeper understanding of the influence of personality on IS related beliefs and behaviors.

2 Research Background

2.1 Theory of a Person

In order to provide a general overview of all the dimensions essential for personality research, McCrae and Costa (2008) provide the meta-theoretical framework in their Theory of a Person (ToP). This theory consists of five dimensions which are termed *basic tendencies*, *characteristic adaptations*, *external influences*, *self-concept*, and *objective biography* (see Figure 1).

The biological based dimension *basic tendencies* (McCrae and Costa 2008) comprises of elementary capacities, dispositions, and individual differences in an abstract manner in order to “*address the question ... [of] what kind of person a particular person is*” (McAdams and Pals 2006, p. 209). Intelligence and dispositional traits are among others components in this exogenous dimension, and it focuses in particular on personality traits which depict constant patterns of thoughts, feelings, and behaviours across diverse situations that distinguish individuals from each other (McCrae and Costa 2006). These traits can be examined on distinct hierarchical levels. First, researchers discuss traits on the topmost hierarchical level in terms of the Big Five (Costa and McCrae 1985) or Myers-Briggs Type Indicator (Myers and Myers 1995). Such higher-order traits include, for example, extraversion or neuroticism, and they capture a wide range of more narrowly defined characteristics (such as anxiety) which represent the second level of traits. Third, IS researchers, such as Thatcher and Perrewé (2002), concentrate on situation-specific traits such as personal innovativeness in IT or computer anxiety. These are comparable to the narrower traits, but are only valid and applicable within the research domain of IS research and hence not generalizable to other research domains.

Next to the exogenous dimension of *basic tendencies*, the Theory of a Person includes another exogenous dimension, namely *external influences* (McCrae and Costa 2008). Here, cultural norms prevailing in a group, organization, country, or society are included, as these give individuals an important historical- and evolutionary-based scope for action (Shweder and Sullivan 1993; McAdams 2006; McAdams and Pals 2006). In addition, developmental, macro-, and micro-environmental changes are included within this dimension.

Through the concretization of an individual’s abstract *basic tendencies* and the *external influences*, every person develops *characteristic adaptations*. These are consistent with an individual’s predisposition and include goals, strivings, strategies, habits, preferences, attitudes, emotions, and beliefs (McAdams and Pals 2006; McCrae and Costa 2008), all of which are affected by culture and other external influences. They are summarized as *characteristic adaptations* and are more susceptible to changes than basic tendencies because “*their configurations inevitable vary tremendously across cultures, families, and portions of the life span*” (McCrae and Costa 2008, p. 164). The influence of dispositional traits and situational dimensions facilitate an individual’s capacity to align themselves to changing situations and give reasons for changing beliefs and attitudes over time. Additionally, the dimension of *self-concept* is integrated within characteristic adaptations and reflects perceptions about the self. The most prominent example for a self-concept in IS research is computer self-efficacy. This construct reflects the judgment of one’s capabilities to use a computer (Thatcher and Perrewé 2002). In the end, the dimensions of *characteristic adaptations* and *self-concept* focus on the “*more existential question: Who is the person*” (McAdams and Pals 2006, p. 209).

In summary, the two dimensions of *characteristic adaptations* and *self-concept* represent a middle-level unit between an individual’s dispositional traits and one’s concrete and observable behavior within a distinct situation (Buss and Cantor 1989), as the latter is captured within the dimension *objective biography* and is influenced by *characteristic adaptations* and *external influences* (McCrae and Costa 2008). Hence, the behavior and reaction encompassed by *objective biography* represent the observable behavior of an individual (McCrae and Costa 2008) and “*give individual lives their unique and culturally anchored meanings*” (McAdams and Pals 2006, p. 210).

2.2 Theory of a Person and Information Systems Research

In general, the Theory of a Person suggests focusing on five dimensions in order to understand an individual. Concerning the dimension *cultural values*, Leidner and Kayworth (2006) perform a literature review which provides an overview of articles discussing culture in the context of IS research. For the dimensions characteristic adaptations including self-concept, Petter et al. (2007) offer an overview of perceptual beliefs which have been examined in the two journals *MIS Quarterly* and *Information Systems Research*. Besides, Williams et al. (2009) review the research domain and research methods discussed in prior technology adoption literature. Hence, some articles already provide a literature analysis of *characteristic adaptations*, *self-concept*, and *external influences*. Nonetheless, no literature analysis has been performed for two of the dimensions *basic tendencies* and *objective biography*. Here, *objective biography* is distinguished from the other dimensions of the Theory of a Person as it is context-sensitive. In the context of computer personnel research, *objective biography* is mostly employee turnover. In the context of technology adoption research, articles focus on technology usage or adoption. Consequently, each research domain has its own objective biography variables which should be explained. Thus, *basic tendencies* is the remaining dimension to be investigated and for which no literature analysis exists so far. Based on the fact that prior IS research emphasizes the significance of personality (McElroy et al. 2007; Devaraj et al. 2008), we perform a literature analysis for this dimension of the Theory of a Person.

3 Research Methodology

In order to carry out a literature analysis we make use of the two steps proposed by Webster and Watson (2002), in which they recommend, firstly, a procedure for searching for articles, and in the second step they propose an approach for classifying the identified articles. These steps are explained in the following:

Firstly, Webster and Watson (2002) recommend specifying the journals as well as the period to be analyzed. We therefore scan the eight journals in the AIS Senior Basket, as these continue to be the most important journals for the IS research community and are regularly cited. With regards to the period we examine all the issues of the journals from their beginning up to September 2011. Next, Webster and Watson (2002) propose the identification of search terms. Here, we identify 42 potential search terms generated to locate articles dealing with personality traits. These are pretested by searching the eight journals for the period between 2001 and 2011. As a consequence of this pretest, we reduce the list of search terms to 19 by excluding those terms, such as HEXACO, which do not yield any results. Then we search for the 19 search terms² in the abstract as well as in the author-supplied keywords of the eight journals in the AIS Senior Basket¹. We access the journal websites via EBSCO Host or Web of Science to scan the abstracts and author-supplied keywords and here, we search for every term separately. After reading the article and verifying its thematic consistency with the objective of our literature review, in a second step (“go backward”) we analyze the citations used in the identified article in order to check for articles which we have not identified within the initial search process. Afterwards, we search for articles citing the article identified in the first step (“go forward”). In summary, these search techniques reveal all those articles citing or cited by the articles identified in step one (Webster and Watson 2002).

Secondly, Webster and Watson (2002) recommend classifying all identified articles into a classification matrix. In this article the Theory of a Person is chosen as the general classification

² “personality”, “traits”, “predisposition”, “dispositional”, “character”, “personality”, “trait theory”, “cognitive style”, “Big Five”, “Five Factor Model”, “Myers-Briggs”, “extraversion”, “neuroticism”, “openness to experience”, “conscientiousness”, “agreeableness”, “emotional stability”, “intellect”, “novelty seeking”

matrix, and so we classify articles focusing on personality traits according to the dimension *basic tendencies*. Here, the basis of the classification is carried out on two aspects, the first being the definition of the constructs used, and secondly by investigating the measurement items if these are provided in empirical research articles.

During the classification process we additionally consider the fact that traits can be analyzed on distinct hierarchical levels and in several research domains. This leads us to the point where we distinguish traits concerning the hierarchical level (e.g., higher-order trait, narrow trait, IT-specific narrow trait) and the underlying research domain. For example, we look at which traits are researched in the context of technology adoption research (why do individuals use or adopt a technology and what perceptions, usage or adoption variables are influenced by predispositions?), computer personnel research (how to set up teams based on team members predisposition or what is the predisposition of IS-professionals), or security research (threat appraisal in the security context).

4 Research Results: Personality in IS research

In total, we identify 30 articles discussing personality traits in the top eight IS-journals. The distribution of these articles across the eight IS-journals is visualized in Table 1, whereas four articles (Benbasat and Taylor 1978; Harrison and Rainer 1992; Thatcher and Perrewé 2002; Lounsbury et al. 2007) are counted twice as they discuss traits on two distinct hierarchical levels (e.g., narrow as well as IT-specific narrow traits) or in two research domains (e.g., computer personnel and technology adoption research).

AIS Senior Basket	Basic Tendencies			Σ
	Higher-Order Traits	Narrow Traits	IT-specific Narrow Traits	
Management Information Systems Quarterly	7	2	3	12
Information Systems Research	1	1	1	3
Journal of Management Information Systems	4	2	1	7
Journal of the Association for Information Systems				0
European Journal of Information Systems	3		1	4
Information Systems Journal	1			1
Journal of Strategic Information Systems		1	1	2
Journal of Information Technology	1	3	1	5
Σ	17	9	8	34

Table 1. Distribution of the 30 identified articles across the eight AIS Senior Basket journals (4 are classified twice)

In a next step, we classify the 30 identified articles into a matrix consisting of the hierarchical level of the examined traits and the underlying research domain (Table 2). Here, 17 articles discuss higher-order traits, nine articles focus on narrow traits, and eight articles concentrate on IT-specific narrow traits. Concerning the underlying research domain, 19 articles are used to examine technology adoption behaviour, 14 articles are investigated in computer personnel research, and just one article is used in the domain of security research. Again, four articles are counted twice.

Based on this, we go a step further and discuss each identified article in detail. First, we provide an overview of articles discussing higher-order traits in terms of Big Five or cognitive style, and then we focus on narrow traits such as optimism as well as IT-specific narrow traits, such as computer anxiety or personal innovativeness in IT. Figure 1 provides an overview of all the traits which have been investigated in previous articles.

Basic Tendencies	Higher-Order Traits	Narrow Traits	IT-specific Narrow Traits	Σ
Technology Adoption Research	Benbasat & Taylor 1978; Devaraj et al. 2008; Harrison and Rainer 1992; Jahng et al. 2002; McElroy et al. 2007	Brown et al. 2004; Connolly and Bannister 2007; Kim and Ahn 2007; Li et al. 2008; McKnight et al. 2002; Thatcher and Perrewé 2002	Agarwal and Karahanna 2000; Agarwal and Prasad 1998; Harrison and Rainer 1992; Kim et al. 2009; Lewis et al. 2003; Lu et al. 2005; Pramatari and Theotokis 2009; Thatcher and Perrewé 2002	19
Computer Personnel Research	Benbasat & Taylor 1978; Chilton et al. 2005; Green and Hughes 1986; Kaiser and Bostrom 1982; Liberatore et al. 1988-9; Lounsbury et al. 2007; Pao et al. 1992; Pobey and Taggart 1982; Sau et al. 2010; White 1984; Yang et al. 2008	Lounsbury et al. 2007; Pasch 1992; Smits et al. 1993		14
Security Research	Junglas et al. 2008			1
Σ	17	9	8	34

Table 2. Classification of 30 identified articles discussing personality (4 are classified twice)

4.1 Higher-Order Traits

This section focuses on higher-order traits, such as extraversion, neuroticism, or openness to new experience. The specific characteristic of such higher-order traits is that they capture personality on the highest hierarchical level. Hence, these traits include a wide range of different narrower traits.

4.1.1 Big Five

The Big Five personality factors are five broad dimensions of personality grounded in biology (McCrae and Costa 2008). The factors are termed *extraversion* (the tendency to seek stimulation of others), *neuroticism* (the tendency to experience unpleasant emotions as anxiety in an easy manner), *openness to experience* (the tendency to prefer new experiences over routines), *conscientiousness* (the tendency to act in a planned and duty manner), and *agreeableness* (the tendency to cooperate with others) (Goldberg 1981). It is argued that these traits represent the highest hierarchical level of personality and include several more specific and narrower traits.

Devaraj et al. (2008) incorporate these traits into an extended technology adoption model consisting of perceived usefulness, perceived ease of use, and social norms in order to understand technology usage in more detail. By using data of 180 students, they establish neuroticism and agreeableness as antecedents of perceived usefulness and conscientiousness, agreeableness, and extraversion as moderators of the relationship between subjective norm and behavioral intention. Moreover, the relation between perceived usefulness and behavioral intention is moderated by conscientiousness.

In the same year, Junglas et al. (2008) examine the effect of the same five higher-order traits on threat appraisal in the context of security. For this purpose, location-based services represent the underlying technology in a survey-based approach and users' concern for privacy is considered as target variable. Of the five hypotheses covering each dimension of the Big Five and concern for privacy, three are verified as being significant; openness, conscientiousness, and agreeableness.

Lounsbury et al. (2007) discuss conscientiousness, extraversion, and openness in the context of job and career satisfaction of IS professionals. For extraversion and openness, a high significant relation to both types of satisfaction could be revealed, whereas conscientiousness has no effect.

Personality in general and the two dimensions of agreeableness and extraversion in particular, are considered by Yang et al. (2008) and Siau et al. (2010) in the context of team composition. Here a positive effect of agreeableness on team effectiveness is verified. In addition, it is important for agreeable individuals that other team members have similar information processing mechanisms (Yang et al. 2008). Siau et al. (2010) investigate which characteristics mark an individual as a team member who everyone wants to develop software with. Here, extraversion is of minor importance whereas cognitive abilities and motivation are essential.

4.1.2 Cognitive Style

Outside the Big Five, cognitive style is a part of individuals' basic tendencies as it reflects recurring patterns of intellectual and perceptual activities and describes the way of acquiring knowledge and processing information. A widely used measurement is the Myers-Briggs Type Indicator (MBTI) based on the work of Jung (1971) and consisting of four dimensions, namely energizing (how an individual is energized, either extraversion or introversion), attending (what an individual pays attention to, either sensing or intuition), deciding (how an individual decides, either thinking or feeling), and living (the preferred lifestyle of an individual, either judgment or perception). All of these dimensions are dichotomies, so that 16 types can be identified in all. Benbasat and Taylor (1978) focus on the issue that individuals differ in their cognitive processes and they provide an extensive literature review of cognitive styles research with the aim of motivating further research in this field and to emphasize its importance in the context of MIS design.

Another article utilizing MBTI is provided by Kaiser and Bostrom (1982) and which compares the personality of users and system staff. In opposition to their hypotheses, they identify that users and systems staff are equal concerning the dimensions extroversion-introversion, perception-judgment, and thinking-feeling. The only significant difference is within the dimension sensing-intuition but this difference is reverse to the hypothesized relation, so that users are higher on sensing than on intuition. Differences within the cognitive style of members in MIS project teams are examined by White (1984). Based on a case study she recommends assembling project teams with members indicating heterogeneous personality styles in order to increase team performance. Chilton et al. (2005) do not focus on differences within a team but on differences within a software developer's cognitive style and the cognitive style of one's job environment. Here they identify negative correlations with performance and positive correlations with strain occur whenever differences become too large.

Previous researches discuss the link between cognitive style and the design of decision support systems (DSS) in a controversial manner (Robey and Taggart 1982; Rao et al. 1992). In contrast, Green and Hughes (1986) do not concentrate on the design of DSS but explain the importance of training format in managers' decision process, and discuss whether DSS should be used or not. Moreover, they identify an interaction between types of training and cognitive style which influences the usage of DSS. The reason for this can be seen in the correlation of computer skills and cognitive style demonstrated by Harrison and Rainer (1992). Nonetheless, Liberatore et al. (1988) conduct an experiment through which they identify no significant effect of personality types in the context of information systems design.

Jahng et al. (2002) propose and validate links between traits, product information presentation richness, and behaviors in an e-commerce environment. By using MBTI in experiments they provide evidence for three propositions. First, the effectiveness of product information presentation varies depending on consumers' psychological types. Second and third, rich product information presentation has a significant impact on consumers' buying behavior when this behavior is associated with intuitive and feeling types.

4.1.3 Comparison of Big Five and Cognitive Style

McElroy et al. (2007) compare the potential contribution of the Big Five and cognitive style in the context of usage settings. The result of this research confirms the superiority of the Big Five over MBTI as it has a higher explanatory power. The difference between this research article and prior research articles discussing Big Five or MBTI is that McElroy et al. (2007) investigate the direct effect of traits on behaviors, whereas other articles examine the effect of traits on perceptual beliefs (e.g., Lounsbury et al. 2007; Devaraj et al. 2008; Junglas et al. 2008).

4.2 Narrow Traits and IT-specific Narrow Traits

Next to articles focusing on higher-order traits, we now discuss articles focusing on narrow traits, which do not reflect human personality on the highest hierarchical level with several dimensions.

In the context of IS professionals' career satisfaction, Lounsbury et al. (2007) identify a relation between the six traits of emotional resilience (ability to resist stress), assertiveness (ability to publicly phrase an opinion), optimism (looking forward to desirable events and minimize problematic issues), teamwork disposition (inclination to work in groups), work drive (disposition to work overtime), visionary (disposition to create organizational visions), and satisfaction with the job or career. The trait needed for achievement (striving to accomplish heavy and complex tasks and attain goals) correlates with the effort and the perceived performance of system developers (Rasch and Tosi 1992). In order to identify antecedents of general computer self-efficacy, Thatcher and Perrewé (2002) discuss the trait of anxiety (feelings of anxiety when facing problematic situations), computer anxiety (negative state or fear felt by humans' when using a computer), and personal innovativeness in IT (PIIT; inclination to try out new IT) as influencing factors. The latter PIIT is also identified as a factor influencing perceptual beliefs in terms of perceived usefulness, ease of use (Lu et al. 2005, Lewis et al. 2003) and more computer-specific dimensions, such as computer playfulness (Agarwal and Prasad 1998), computer anxiety, computer self-efficacy (Thatcher and Perrewé 2002), and cognitive absorption (2000). The other trait considered by Thatcher and Perrewé (2002) – anxiety toward technologies – is used by Pramartari and Theotokis (2009) as an antecedent of attitude in the context of radio-frequency identification (RFID) enabled services.

Smits et al. (1993) discuss the issue of how to manage IS professionals and in doing so they address work traits and personal attributes. They explain that high-achieving professionals consider themselves to be organized, punctual, insightful, industrious, and intelligent.

The predisposition to trust technologies or people is discussed extensively in differing domains. As shown in the context of mobile banking services, the trait of trust determines the initial degree of trust (Kim et al. 2009). McKnight et al. (2002) agree with Kim et al. (2009) that the predisposition to trust influences domain-specific trust but they extend this by revealing its effect on trusting beliefs. Therefore, they define trust as a multifaceted construct. Connolly and Bannister (2007) as well as Kim and Ahn (2007) discuss the concept of a disposition to trust in the context of internet shopping. Here, Connolly and Bannister (2007) show that the influence of the trait is less than factors such as previous experience. Additionally, dispositional trust is related to the trust of individual in sellers, whereas the trust in market-makers is detached from one's predisposition (Kim and Ahn 2007). Two further approaches focus on trust in a more general manner. Li et al. (2008) suggest two traits, faith in humanity and trusting stance, as the base for the predisposition of trust, but they could not verify their hypotheses with empirical data. Brown et al. (2004) agree with Li et al. (2008) as they regard trust to be a multifaceted trait, and they use an interpersonal circumplex model consisting of the four dimensions, affiliation, hostility, dominance, and submissive, in order to develop hypotheses that these dimensions influence the level of trust and the intention to participate in virtual communities.

In order to provide an overview of all personality traits, which have been discussed in IS research, Figure 1 visualizes the traits researched within the Theory of a Person.

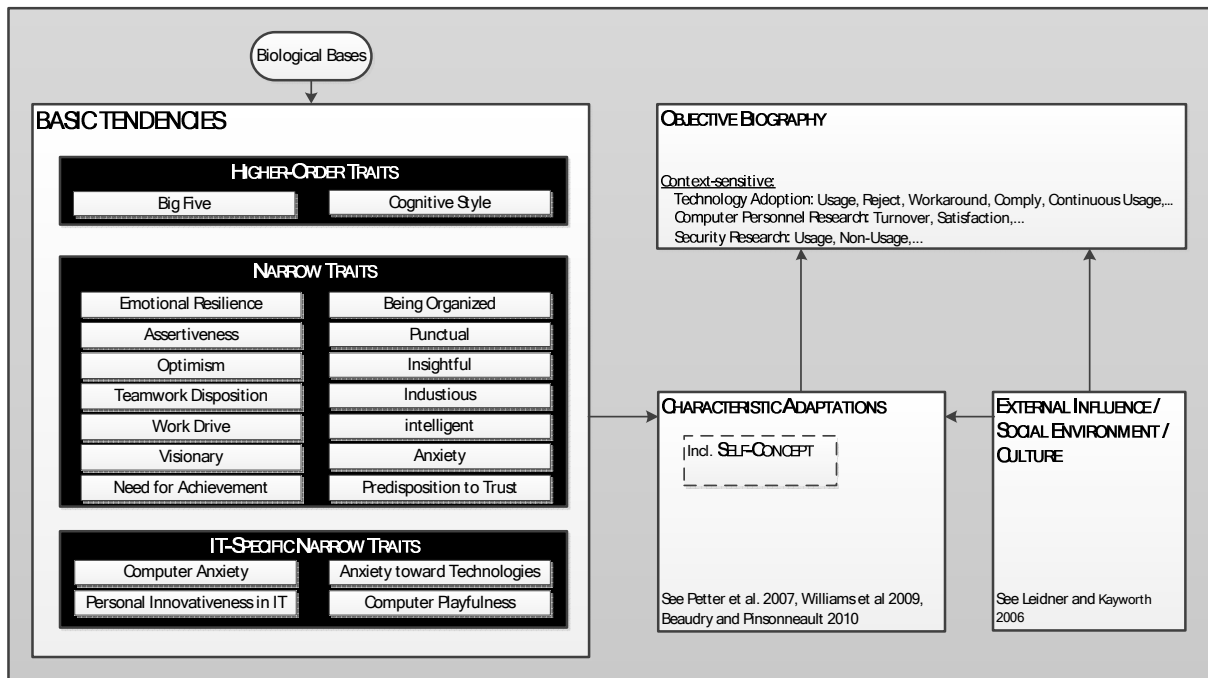


Figure 1. Theory of a Person (McCrae and Costa 2008) including the personality traits, researched in the eight journals of the AIS Senior Basket

5 Discussion

The first objective of this literature review was to identify articles discussing personality in information systems journals. Here, we identify 30 articles of which 17 discuss personality traits on the highest hierarchical level, nine discuss narrow traits, and eight articles focus on IT-specific narrow traits. By analyzing these articles, we can identify some interesting facts. First, we witness a shift in the use of higher-order concepts from cognitive style to the Big Five. The former are mainly used in the eighties. With the help of this concept, researchers discuss how to assemble teams in order to maximize team performance or how to design DSS. After McElroy et al.'s (2007) comparison of cognitive style and the Big Five, the latter is the concept widely used in IS research. Research domains that use this concept vary widely and range from technology adoption research over security research to computer personnel research. In contrast to this, narrower traits remain in the IS focus for approximately ten years and discuss differencing traits such as PIIT or anxiety in the context of technology adoption research.

Astonishingly, although Ajzen and Fishbein (1980) focus within their theories on external variables which have an influence on perceptual beliefs and explicitly mention traits such as extraversion or neuroticism as external variables, no major IS adoption model or theory (e.g. UTAUT) consider traits as antecedents of perceptual beliefs. So far, the approach by Devaraj et al. (2008) is the only one integrating traits into an extended model of technology acceptance. Here, they consider traits mostly as moderators of belief-intention relations. In contrast to this, psychological research (Ajzen and Fishbein 1980; McCrae and Costa 2008) and one IS research article (Devolder et al. 2008) suggest traits to be direct antecedents of perceptual beliefs or as moderators of the intention-behavior relation (Ajzen 2002). As a consequence a proposition of this research is that traits are either direct antecedents of perceptual beliefs or moderators of intention-behavior relation. Thus future research should investigate the direct influence of different traits on the formation of beliefs in terms of direct antecedents and their mediating effect on intention-behavior relation.

Second, no identified article uses longitudinal data. Such research helps identify whether traits have an influence on changes in perceptual beliefs or behavioral patterns. Thus, we propose that traits should be integrated in longitudinal research to examine belief changes, because traits such as cognitive rigidity (Oreg 2003) will reveal how IS related beliefs are updated or formed over time.

Third, we assert that IT-specific narrow traits (e.g., PIIT, computer anxiety) are more often used in the context of technology adoption research than higher-order or narrow traits. In the research domain of technology adoption, five articles discuss higher-order traits in terms of the Big Five or cognitive style, six articles discuss narrow traits, and eight articles focus on IT-specific narrow traits in terms of computer anxiety, anxiety toward technologies, computer playfulness, or personal innovativeness in information technology. By comparing the variance that is explained by higher-order traits with the variance that is explained by IT-specific narrow traits, we agree with Paunonen and Ashton (2001) and state that IT-specific narrow traits have a higher explanatory power. Hence, we propose that future research should integrate IT-specific narrow traits into IS research when such a trait is consistent with the research objective. In other respects higher-order traits represent a good choice when for example the influence of traits on a wide range of beliefs should be examined or when no narrower trait fits the research objective perfectly.

Fourth, we scan the psychological literature to identify traits which have not been researched in information systems articles before. One example is the research of Oreg (2003), who defines resistance to change as a personality trait that captures the inclination to prefer the status quo. Up to now the influence of this trait on IT-related beliefs has not been researched. By examining the impact of this trait on IS literature, we propose that researchers can reveal new insights into technology adoption research (are resistant individuals non-adopters?) and computer personnel research (are resistant employees less willing to change jobs even when they have high turnover intentions?).

In addition another objective of this research is to show how IS research can use psychological research. Among other use, consumer research uses a theoretical framework that is comparable with the Theory of a Person in order to develop a “*personology of a consumer*” (Baumgartner 2002). In this research, Baumgartner (2002) describes personality traits, personal concerns, and life stories of consumers. Based on this he identifies a typology of consumers’ purchase behaviors. Future IS research can transfer this idea into the context of IS research. With the help of the introductory examples we emphasize the practical and theoretical necessity of integrating personality into project management and technology usage research. Within these two research contexts we propose that future research should use the Theory of a Person (McCrae and Costa 2008) and link traits with characteristic adaptations, including self-concept and cultural values, in order to describe the personology of a user (for technology usage) or the personology of a professional (in the context of project management) in order to identify a typology of users’ and professionals’ behaviors.

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