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Research Report

Inspirational Intuition – A new Managerial Approach to Operationalize a Success Factor for Inventions

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Title.

Inspirational Intuition – A new Managerial Approach to Operationalize a Success Factor for Inventions.

Abstract.

Intuitive competence is an important human characteristic. This article discusses the importance of human intuition in the context of creating new knowledge. In particular, inspirational intuition plays an important role. In contrast, to Daniel Kahneman's fast, intuitive, and routine decision making in terms of a "System 1" (Kahneman 2011, pp. 19 ff.), inspirational intuition is shown to be a slow, incubational, and illuminative force. As a new "System 3", it forms an important core human capability to enable unprecedented knowledge with the help of original intuitions. The scientific paper shows the development of a helpful questionnaire to quantify inspirational intuition. This managerial approach captures individual differences in the potential of inspirational knowledge imagination and helps the management better realize and operationalize this intuitive competence in the competition of best ideas.

Keywords.

intuition, innovation, inspirational, knowledge, imagination, inventory, creativity, competence, survey, questionnaire,

1. Introduction

Intuition opens up an inexhaustible additional reservoir for us, and only by developing our logic and intuition equally, and by linking these two sources, can we fully exploit our human potential. Today we run the risk of increasingly forgetting the gift of intuition due to increasing rationalization and mechanization of the world. In the age of artificial intelligence and machine learning, logic and algorithms count above all. Human intuition as an effective gateway to new knowledge could be lost more and more. One might think that the importance of intuition is decreasing because we can rely more on data, automation and algorithms. Indeed, it is important to make existing data available, emphasize Rachel Schutt, Managing Director at BlackRock where she is the Head of BlackRock Artificial Intelligence Labs, and Claudia Perlich, Senior Data Scientist at Two Sigma in New York. However, they see this importance increasingly for experience and intuition (Lohr 2012). Michael Atavar is an artist and a consultant with a practice that mixes creativity, business, art and psychology. He considers the subconscious to be the central origin of creative actions. In his opinion, the ideas that arise from intuition are "new and alive" and leave familiar and established paths (Dobiéy / Köplin 2018, p. 120). In the current competence models and approaches to personnel development, the intuitive competence has so far been searched in vain.

The aim of this paper is to demonstrate the importance of inspirational intuition for the generation of new knowledge. The identification and estimation of inspirational intuition will be supported by a designed Inspirational Knowledge Imagination-Inventory (IKII-10).

2. Material and Methods

We are increasingly confronted with situations and challenges in everyday life that are volatile, uncertain, complex and ambiguous. Finding a rational solution is often very difficult, even seemingly impossible. Experience shows that in decision-making situations the most suitable solution can be found if both reason and intuition have their place.

It is the intention of this scientific work to give more weight to intuition in connection with the generation of new knowledge. Especially when new, innovative knowledge is to be generated. In this case, inspirational knowledge imagination could be an intuitive option.

From the extensive information on intuition, key determinants of intuition were extracted by means of qualitative research, which help to concretize and assess intuitive competencies (see Figure 1) Quantitative research approaches were used to collect objective data. The data were collected by means of a questionnaire and a validated self-assessment test procedure. Within the framework of a statistical survey, the defined items were evaluated using a five-level Likert scale (Disagree strongly 1 / Disagree a little 2 / Neither agree nor disagree 3 / Agree a little 4 / Agree Strongly 5). The data obtained through the survey are statistically evaluated with the help of factorial analysis. This allowed further findings to be derived and causal relationships to be proven. Finally, the quantitative research was evaluated and interpreted.

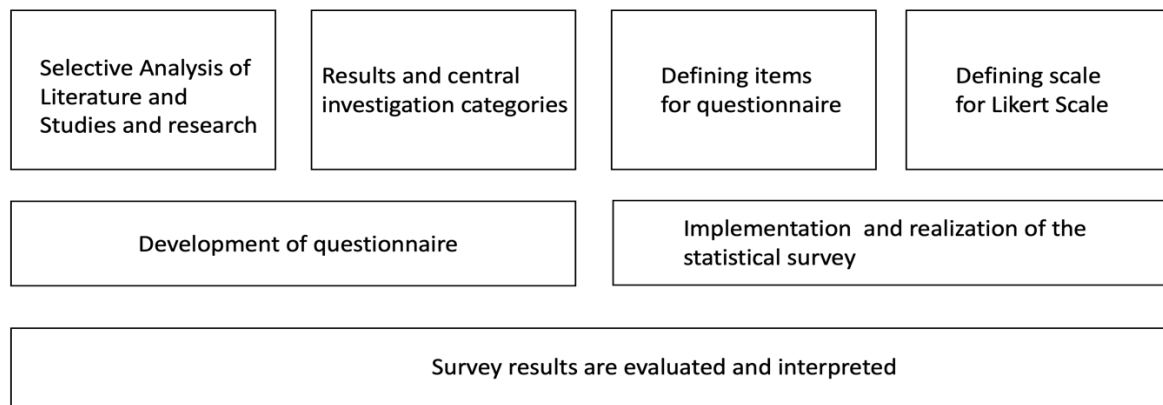


Figure 1: Investigation Design

An inventory for assessing the dimension of affect-based decision making was developed and scientifically validated by Betsch. Questions 2 and 19 were considered relevant. They measure the preference for intuition without explicitly adopting a decision-oriented approach (Betsch 2005, part III, p. 61).

Further items for capturing the intuitive orientation are taken from the Rational-Experiential Inventory. The Rational-Experiential Inventory (REI) was constructed to measure two independent processing modes with a modified need for cognition scale and a new scale, faith in intuition (Epstein et al. 1996, p. 390).

Additional impulses for the construction of an Inspirational Knowledge Imagination Inventory (IKII) resulted from the research of Friedemann Schulz von Thun (Schulz von Thun 2016, p. 35 ff.) about inner plurality and role models.

Furthermore, an article by Father Anselm Grün was worthwhile, in the magazine "Orientierung", on the topic of stillness and silence (Grün 2017).

The five-factor model of personality was used to consider the personal dimension of intuition. Here the characteristic of openness was focused. Open-minded people prefer research or artistic activities (Barrick et al. 2003), so an affinity to inspirational intuition is obvious.

The realization that new knowledge arises in a process with several changes between conscious and unconscious phases also proved to be central. Following the research of Helmholtz, Poincaré and Wallas (Müller / Rippel 2014, p. 9), creative ideas only gradually build up. Wallas formulated his Systematic Theory of Creative Thinking and divided the entire process into the phases of preparation, incubation, illumination and realization (Wallas 1926, p. 10). Poincaré also emphasizes the central importance and significance of the intuitive development phase up to illumination: „There is another remark to be made about the conditions of this unconscious work: it is possible, and of a certainty it is only fruitful, if it is on the one hand preceded and on the other hand followed by a period of conscious work. These sudden inspiration [...] never happen except after some days of voluntary effort which has appeared absolutely fruitless and whence nothing good seems to have come, where the way taken seems totally astray.” (Poincaré 2012, p. 389). Against this background, it makes sense to include the importance of incubational patience and the intuitive maturity of new knowledge in question form in the item battery. Poincaré emphasizes the role of intuition for inventions. By this he means the here defined inspirational and imaginary “System 3”, as slow, holistic, empathetic, incubating and inspirational intuition: “Thus logic and intuition have each their necessary role. Each is indispensable. Logic, which alone can give certainty, is the instrument of demonstration; intuition is the instrument of invention.” (Poincaré 2012, p. 219).

Holistically-affective items of intuition:

I listen carefully to my deepest feelings. (Betsch 2005, part III, p. 61 (No. 2)).

I believe in trusting my hunches. (Epstein / Pacini / Denes-Raj / Heier 1996, p. 399).

I trust my initial feelings about people. (Epstein / Pacini / Denes-Raj / Heier 1996, p. 399).

Personal items of intuition:

I am curious about many different things. (John 1991, p. 70, (No. 10)).

I like emotional situations, discussions, and movies. (Betsch 2005, part III, p. 61, (No. 19)).

Inspirational-imaginary items of intuition:

I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations.

In the inner silence I feel the unity with all people, with all creation and with universal spirituality. (Grün 2017).

Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition.

I think holistically and love systemic harmony.

I think in pictures and have a strong imagination.

The following figure summarizes the Inspirational Knowledge Imagination Inventory (IKII) consisting of a statement part with 10 items and the corresponding evaluation using a five-step Likert scaling (see Figure 2).

Questionnaire Inspirational Knowledge Imagination-Inventory (IKII10)		Disagree strongly	Disagree a little	Neither agree nor not agree	Agree a little	Agree strongly
No.		1	2	3	4	5
1	I listen carefully to my deepest feelings.					
2	I believe in trusting my hunches.					
3	I trust my initial feelings about people.					
4	I am curious about many different things.					
5	I like emotional situations, discussions, and movies.					
6	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations.					
7	In the inner silence I feel the unity with all people, with all creation and with universal spirituality.					
8	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition.					
9	I think holistically and love systemic harmony					
10	I think in pictures and have a strong imagination.					
Instructions: Please answer the above questions regarding to your intuitive competence. Your answer should correspond to your ability to develop an inspirational knowledge imagination. 1 means that you strongly disagree; 5 means that you are strongly agree.						
Version 1-2020						

Figure 2: Inspirational Knowledge Imagination-Inventory (IKII-10)

A sample is taken to determine the statistical core statements regarding the Inspirational Knowledge Imagination inventory. Random samples are used to represent the total population or the basic population. They are a selected subset that can be extrapolated and generalized in order to make general statements about larger or elusive groups. One difficulty is the number of answers for statistically found results. While a larger sample size can provide more accurate study results, it is often associated with a higher effort. In order to calculate the optimal sample size, some aspects and key values must be determined about the total population and the required sample. In detail these are: Population size, range of error, confidence level, standard deviation, z-value. Population size refers to all people in a demographic group. While small studies use the most precise number possible, larger studies may also use an estimated value. The margin of error or confidence interval is expressed as a percentage and shows how close the answers from the selected sample will come to the true value of the total population. The range of error thus refers to the number of

errors allowed in the results, since no sample is perfect. The confidence level is related to the error margin. It indicates how high the confidence is that the total population is well represented by the sample. It therefore indicates how certain it is that the results will remain within the specified margin of error. The standard deviation indicates how much variance is expected in the responses. The higher the variance, the larger the standard deviation. It indicates how close the data are clustered around the mean and how far they are distributed between maximum and minimum. Since this cannot really be determined before the study is conducted, this value is usually set to 0.5 (50%). With a value of 50 %, in the worst case it is ensured that the determined sample size is large enough to be representative for the entire population. The z-value based on the confidence level is constant and represents the usual mean value or denotes the number of standard deviations located between the selected value and the population average. After the key values have been established, the sample size is calculated:

$$\text{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

Population size	N
Confidence level	z
Range of error	e
Standard deviation	p

With very large populations, the value of the denominator tends towards 1, so in this case you can concentrate on the value of the denominator. For the determination of the sample size the following parameters are defined here:

Confidence Level	1,96
Range of Error	10%
Standard Deviation	0,5

Under these assumptions, the following sample size results:

$$\text{Sample Size} = \frac{1,96^2 \times 0,5 (1 - 0,5)}{0,1^2} = 96,04 = 96 \text{ Samples}$$

A representative survey was conducted using the questionnaire (Inspirational Knowledge Imagination-Inventory 10) developed. The participants were recruited via the online platform XING within a business context. A total of 318 items were collected for each question respectively variable.

3. Results

As a result of the selective analysis, on the one hand, the essential definitional characteristics of intuition as well as central individual styles of perception and processing information became apparent. It became clear that beyond the 2-system thinking according to Kahneman, hypothetically a third system seems necessary to do justice to the inspirational-imaginary side of intuition (see Figure 3).

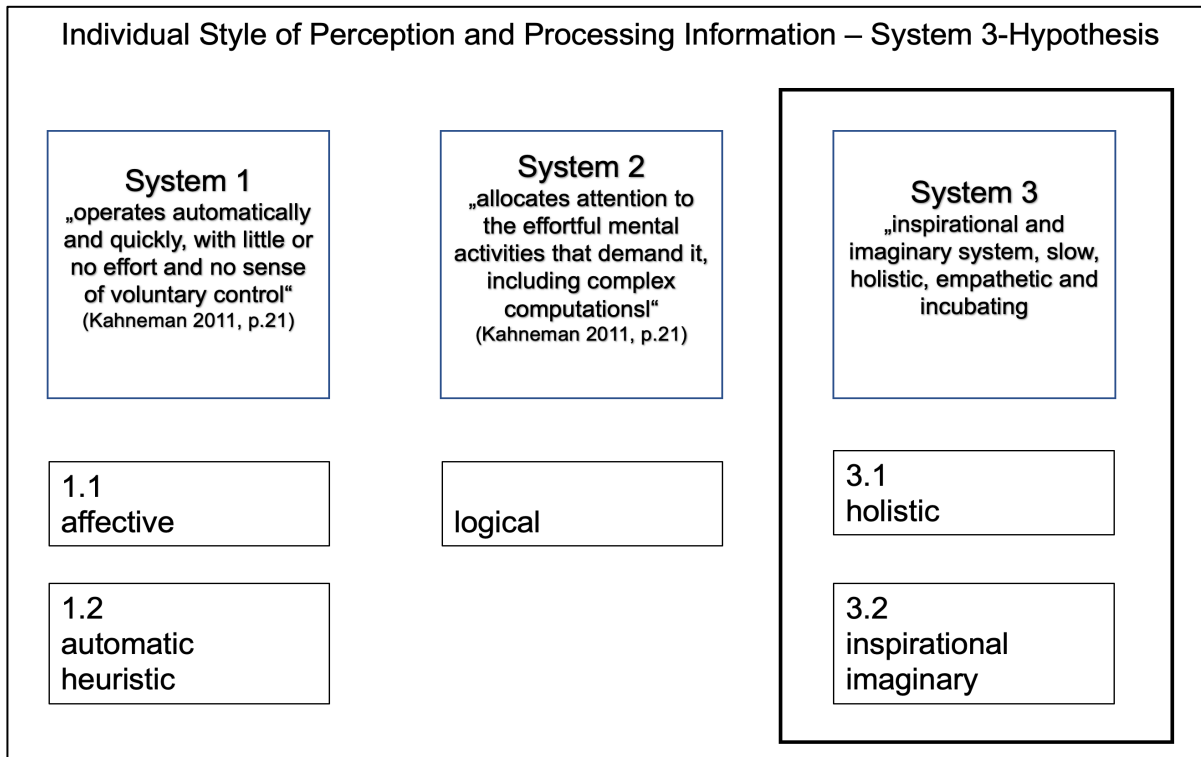


Figure 3: System3-Hypothesis – inspirational and imaginary system

“System 3”, as an inspirational, imaginary intuition that works slowly, holistically, empathetically and incubational. It manages to create something really new and detached from previous knowledge, to create new knowledge. In contrast to Kahneman's “System 1”, which acts quickly and affective, the effect of “System 3” unfolds gradually and over time (see Figure 4).

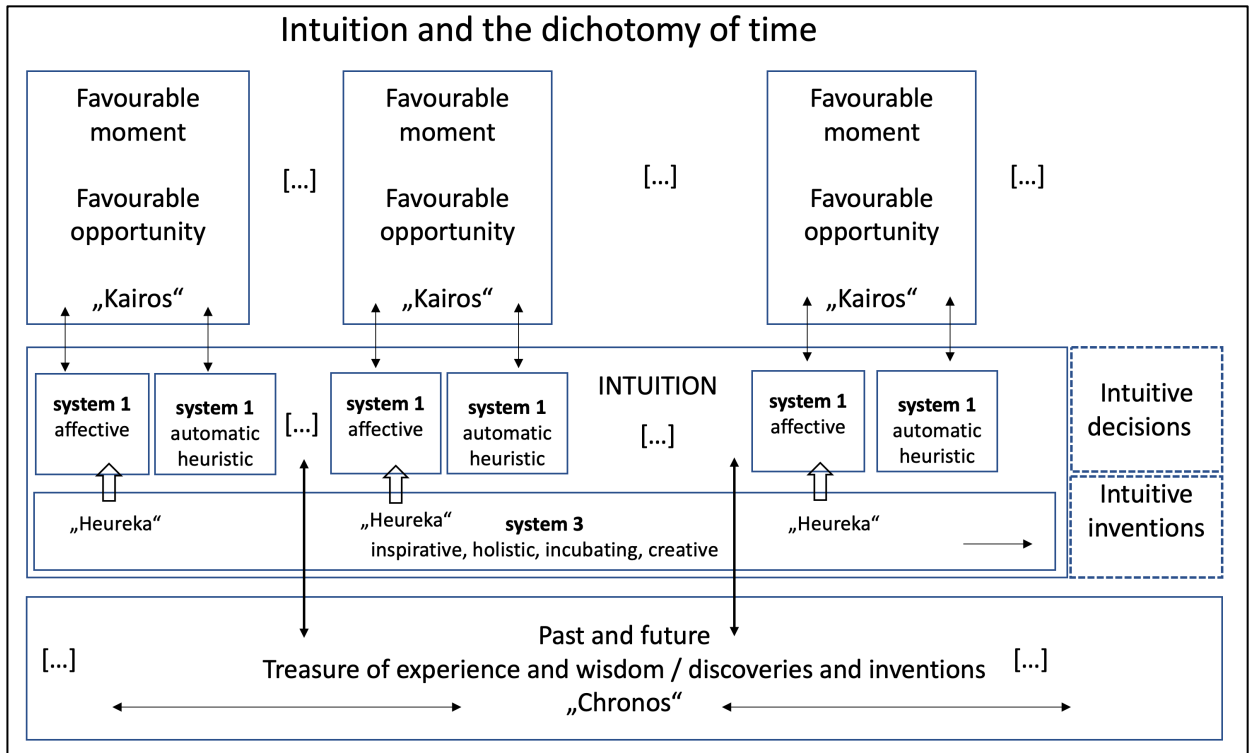


Figure 4: Intuition and the dichotomy of time

The mental models System 1 and System 2 primarily serve to acquire, apply and change existing knowledge, whereas System 3 aims at the inspirational creation of completely new knowledge (see Figure 5).

Basic psychological functions and mental models				
Perception	Knowledge Base	Judgement	Mental Models	Actions
sensing	conscious	conscious knowledge from experience	System 2 logical, mental, rational	applying existing knowledge, skills and competence
	unconscious	conscious unknowledge		change existing knowledge
psychic sensing	unconscious	individual	System 1.1 affective	acquire existing knowledge
		collective		System 1.2 automatic heuristic
		individual	System 3.1 holistic	intuitive applying knowledge, skills and competence
		collective		System 3.2 inspirational imaginary
intuition	intuitive exploration of the knowledge frontier	intuitive creating new knowledge, hunch, inspiration, imagination		

Figure 5: Basic psychological functions and mental models

Through inspirational imagination, reasonable speculation and hypothesis formation new knowledge is stimulated. A rational examination of intuitive premonitions and assumptions ideally leads to scientifically proven findings, i. e. to new knowledge. The Inspired Knowledge Imagination theory (IKI theory) becomes a model-theoretical approach for the creation of new knowledge. The combination of inspirational intuition and rational speculation and hypothesis formation with proof becomes a learning model (see Figure 6).

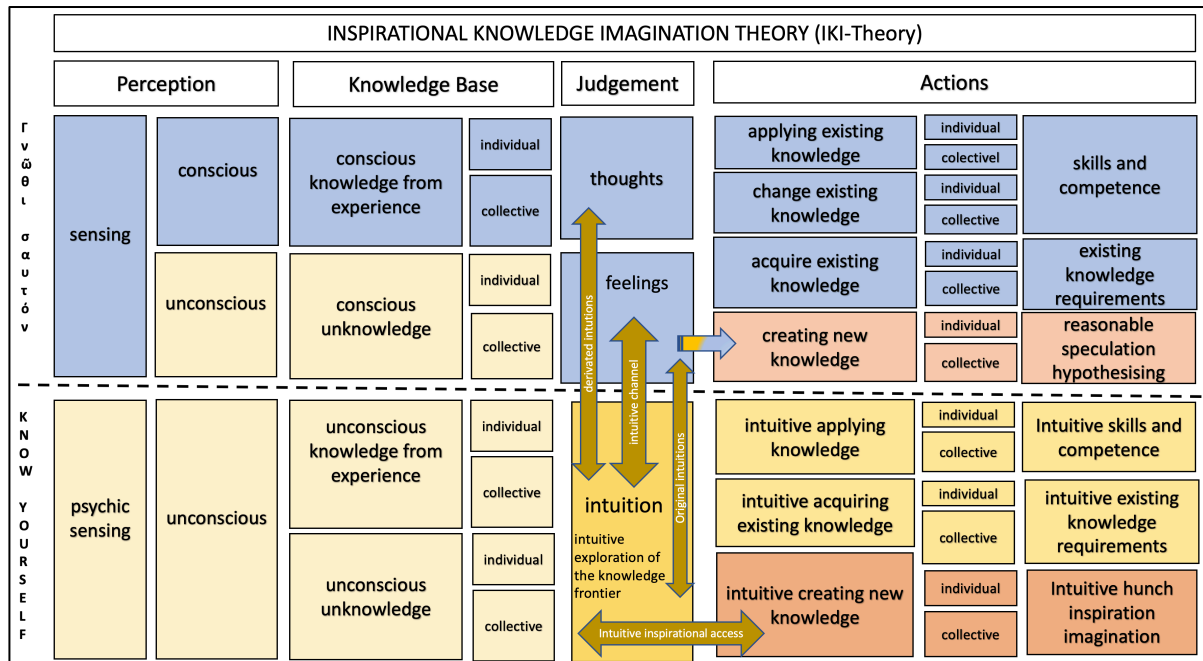


Figure 6: Inspired Knowledge Imagination Theory (IKI-Theory)

The scientist Henri Poincare outlined a comparable theory on the generation of creative ideas, with a special emphasis on the intuitive skills of creators. (Poincare 1921, p. 389). He recognizes as a peculiarity that the creative process rarely produces immediate solutions, but only in an incubational process. “[...] appearance of sudden illumination [is] a manifest sign of long, unconscious prior work” (Poincare 1921, p. 389). In his book, “The Foundations of Science”, he gives us an introspective insight into one of his creative processes: „Then I turned my attention to the study of some arithmetical questions apparently without much success and without a suspicion of any connection with my preceding researches. Disgusted with my failure, I went to spend a few days at the seaside, and thought of something else. One morning, walking on the bluff, the idea came to me, with just the same characteristics of brevity, suddenness and immediate certainty, that the arithmetic transformations of indeterminate ternary quadratic forms were identical with those of non-Euclidean geometry.” (Poincare 1921, p. 388). Poincare therefore also sees this initializing preoccupation with a problem on the conscious level in order to set the unconscious, intuitive solution process in motion. The randomly initiated development and combination of solutions and ideas usually ends in an illuminating appearance of the unconsciously created solution.

With the following words Max Planck also supports the hypothesis of a System 3, which plays an important role for an inspired knowledge imagination of creative scientists: “[...] must have a vivid intuitive imagination, for new ideas are not generated by deduction, but by an artistically creative imagination” (Planck 1949, p. 109). Also the statements of Albert Einstein about a dream, point to the connection between

logical initialization, intuitive solution finding and final proof: „[...] like a giant die making an indelible impress, a huge map of the universe outlined itself in one clear vision.“ (Brian 1996, p. 159).

An Inspirational Knowledge Imagination-Inventory (IKII) is to be developed to facilitate an assessment of the inspirational intuition of individuals. The inventory is based on the assumption that people with high inspirational intuition are also more creative and innovative. In this way, such an inventory can help to improve the intuitive competence of organizations and their members.

The selective analysis revealed several intuitive dimensions that should be the main focus for the development of a corresponding questionnaire. In detail, these are: the holistic, the affective, the personal and the inspirational dimension. The automatic-heuristic dimension of intuition rather represents a fast and often error-prone intuition, in the sense of Kahneman's System 1 and shall not be included here. It is especially relevant in the field of judgement and decision making, where one runs the risk of deriving unwanted and rash decisions or reactions from heuristics. The inspirational-imaginary dimension of intuition has not yet been sufficiently scientifically investigated. Therefore, in addition to the holistic, affective and personal dimension, the inspirational-imaginary dimension is considered in the Inspirational Knowledge Imagination Inventory with corresponding items.

The respondents are evenly distributed across a range of industries and different career levels. In this respect, it can be assumed that both managerial and executive employees completed the questionnaire. There was no specific focus on particular survey groups (e.g., students, professional groups, etc.) (see Figure 7 and Figure 8).

		Statistics									
		I listen carefully to my deepest feelings	I believe in trusting my hunches.	I trust my initial feelings about people.	I am curious about many different things.	I like emotional situations, discussions, and movies.	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations.	In the inner silence I feel the unity with all people, with all creation and with universal spirituality.	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition.	I think holistically and love systemic harmony	I think in pictures and have a strong imagination.
N	Valid	318	318	318	318	318	318	318	318	318	318
	Missing	0	0	0	0	0	0	0	0	0	0

Figure 7: Frequencies according to surveyed questions of the Inspirational Knowledge Imagination-Inventory (IIKI-10) survey.

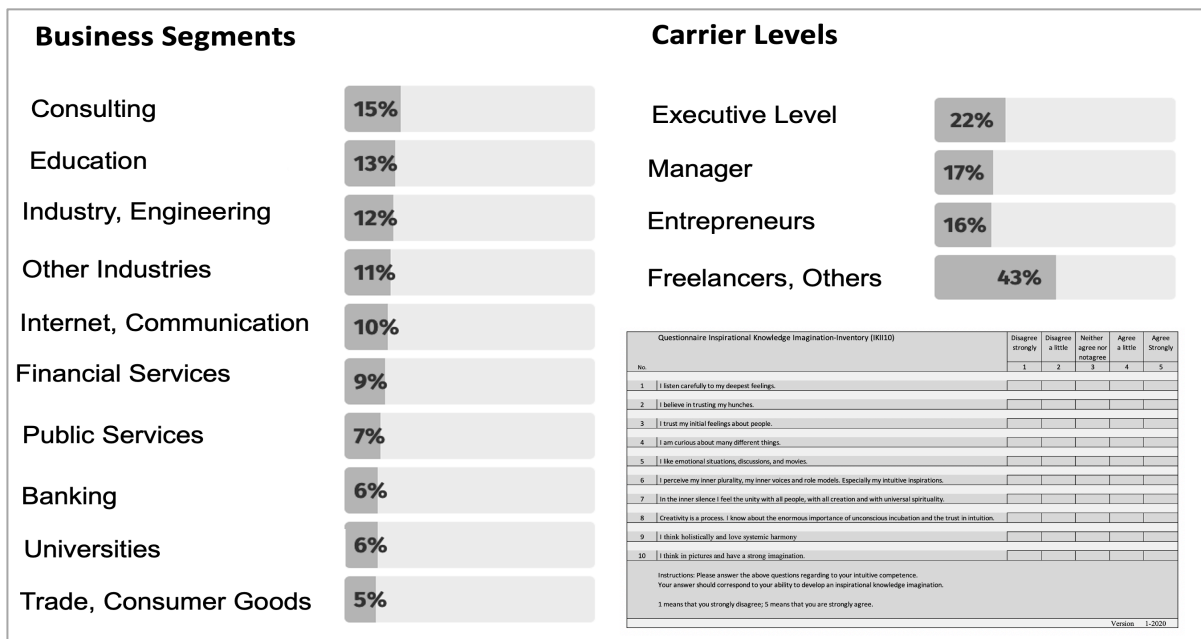


Figure 8: Industries and career stages of the Inspirational Knowledge Imagination-Inventory (IIKI) survey.

The following tables show supplementary frequency values for gender (see Table 1) and age (see Table 2). The survey took place in a professional setting. Women and men are not employed to the same extent. The share of women in the total workforce shows how often women are engaged in paid work compared with their share of the population. However, the indicator does not include information on the type and extent of the activity performed. Out of 100 employed persons, 46.6 women were engaged in paid employment in 2019. Compared to their share of the total population (50.8%), women were still underrepresented in working life in Germany. The disparity between men's and women's participation in the workforce is even more apparent when only managers are considered. Only just under one in three executives was a woman in 2019 (Statistisches Bundesamt 2019). In this respect, the study result with a female share of 39 percent corresponds to the actual conditions in the business environment.

Table 1: Frequencies of gender of the participants of the Inspirational Knowledge Imagination-Inventory (IIKI) survey.

		Gender			
		Häufigkeit	Prozent	Gültige Prozente	Kumulierte Prozente
Gültig	divers	1	,3	,3	,3
	female	122	38,4	38,4	38,7
	male	195	61,3	61,3	100,0
	Gesamt	318	100,0	100,0	

Table 2: Frequencies of Age of the participants of the Inspirational Knowledge Imagination-Inventory (IIKI) survey.

Descriptive Statistics							
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness	
						Statistic	Std. Error
Age	318	20	70	39,08	10,077	,687	,137
Valid N (listwise)	318						

The Likert scale used is understood to be a point sum of answers taken from a questionnaire designed to record views, sensitivities or opinions. In the specific case (Disagree strongly: 1 - Disagree a little: 2 - Neither agree nor not agree: 3 - Agree a little: 4 - Agree strongly: 5). Absolute and percentage frequencies are used for statistical analysis of individual Likert items. Due to the lack of metrics (distances between expressions are not defined), measures such as mean, variance and standard deviation have little significance. Nevertheless, dispersion measures can be used to derive a distribution of values around the mean. The median and the mode are suitable as position measures (see Table 3).

Table 3: Frequencies of surveyed variables to verify the Inspirational Knowledge Imagination-Inventory (IIKI) survey.

		I listen carefully to my deepest feelings.	I believe in trusting my hunches.	I trust my initial feelings about people.	I am curious about many different things.	I like emotional situations, discussions, and movies.	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations.	In the inner silence I feel the unity with all people, with all creation and with universal spirituality.	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition.	I think holistically and love systemic harmony	I think in pictures and have a strong imagination.
N	Valid	318	318	318	318	318	318	318	318	318	
	Missing	0	0	0	0	0	0	0	0	0	
Mean		3,73	3,84	4,10	4,14	3,71	3,66	2,85	3,93	3,96	
Median		4,00	4,00	4,00	4,00	4,00	4,00	3,00	4,00	4,00	
Mode		4	4	4	5	4 ^a	4	3	4	4	
Std. Deviation		,781	,774	,858	,925	1,108	,904	1,127	,858	,932	
Variance		,609	,600	,737	,855	1,228	,817	1,271	,736	,869	
Minimum		2	1	1	1	1	1	1	1	1	
Maximum		5	5	5	5	5	5	5	5	5	

a. Multiple modes exist. The smallest value is shown

The developed questionnaire was subjected to an assessment with regard to reliability. A measuring instrument is reliable if it always produces the same result under the same conditions. If the reliability is very low, the questionnaire would repeatedly produce completely different results despite the same conditions. In this case, the questionnaire would be burdened with potential measurement errors. A special aspect of reliability is the internal consistency of the questionnaire. From it one can see to what extent the individual questions of a questionnaire agree with each other and measure the same characteristic. Thus, with a high internal consistency, the answers to questions of the same direction roughly agree with each other. In other

words, the question items correlate positively with each other. This fact is described by Cronbach's Alpha (Wirtz, 2020).

For the newly created questionnaire, possible questions that could be detrimental to internal consistency were identified with SPSS using the "Cronbach's Alpha if Item Deleted" column. The analysis showed that the internal consistency of the questionnaire is given and that cleaning up individual questions would not mean a decisive improvement. The Inspirational Knowledge Imagination-Inventory (IKII-10) can therefore be regarded as reliable. The relatively low value of 0.7 suggests that the questionnaire, within the intuitive competence, covers several dimensions. Despite multidimensionality, a still acceptable value is achieved overall across all variables.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,764
Bartlett's Test of Sphericity	Approx. Chi-Square	402,239
	df	45
	Sig.	,000

Figure 9: Results of Kaiser-Meyer-Okin and Bartlett's Test IKII-10

In this study, the KMO value is .764. Measure of Sampling Adequacy values above .70 are considered "fairly good" ("middling") (Backhaus et al. 2006). The p-value of Bartlett's test for sphericity is highly significant in the present example ($p < .001$). It can be assumed that the analysis data are suitable for conducting a factor analysis. In addition, the anti-image matrices, which are based on the decomposition of the variance into two parts, are used to assess whether the individual variables should be included in the factor analysis (see Figure 10). Here, the variance portion of a variable that can be explained by the correlating variables (image) is related to the unexplained variance portion (anti-image). Variables are suitable for inclusion in factor analysis if their anti-image is low. According to the anti-image matrices, this is the case for all variables. The values of the variables lie between .805 and .666 for the anti-image correlation.

Anti-image Matrices											
		I listen carefully to my deepest feelings	I believe in trusting my hunches	I trust my initial feelings about people	I am curious about many different things	I like emotional situations, discussions and movies	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations	In the inner silence I feel the unity with all people, with all creation and with universal spirituality	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition	I think holistically and love systemic harmony	I think in pictures and have strong imagination
Anti-image Covariance	I listen carefully to my deepest feelings	,805	-,119	-,019	-,057	-,103	-,139	-,056	,037	-,007	-,075
	I believe in trusting my hunches	-,119	,783	-,166	-,059	,069	-,127	-,001	-,089	-,045	-,084
	I trust my initial feelings about people	-,019	-,166	,877	,137	-,108	-,058	,018	,064	-,058	-,041
	I am curious about many different things	-,057	-,059	,137	,906	-,065	-,041	,004	-,011	-,055	-,115
	I like emotional situations, discussions and movies	-,103	,069	-,108	-,065	,806	-,161	-,066	-,029	,066	-,134
	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations	-,139	-,127	-,058	-,041	-,161	,630	-,120	-,120	-,166	,022
	In the inner silence I feel the unity with all people, with all creation and with universal spirituality	-,056	-,001	,018	,004	-,066	-,120	,836	-,166	-,087	,071
	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition	,037	-,089	,064	-,011	-,029	-,120	-,166	,832	-,037	-,085
	I think holistically and love systemic harmony	-,007	-,045	-,058	-,055	,066	-,166	-,087	-,037	,802	-,149
	I think in pictures and have strong imagination	-,075	-,084	-,041	-,115	-,134	,022	,071	-,085	-,149	,831

Anti-image Correlation	I listen carefully to my deepest feelings	,820 ^a	-,150	-,022	-,066	-,128	-,195	-,069	,046	-,009	-,091
	I believe in trusting my hunches	-,150	,775 ^a	-,200	-,070	,087	-,181	-,001	-,111	-,057	-,105
	I trust my initial feelings about people	-,022	-,200	,666 ^a	,154	-,129	-,078	,021	,075	-,069	-,049
	I am curious about many different things	-,066	-,070	,154	,733 ^a	-,076	-,054	,005	-,012	-,065	-,132
	I like emotional situations, discussions and movies	-,128	,087	-,129	-,076	,732 ^a	-,227	-,080	-,035	,082	-,164
	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations	-,195	-,181	-,078	-,054	-,227	,772 ^a	-,165	-,166	-,233	,031
	In the inner silence I feel the unity with all people, with all creation and with universal spirituality	-,069	-,001	,021	,005	-,080	-,165	,773 ^a	-,199	-,106	,085
	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition	,046	-,111	,075	-,012	-,035	-,166	-,199	,776 ^a	-,045	-,103
	I think holistically and love systemic harmony	-,009	-,057	-,069	-,065	,082	-,233	-,106	-,045	,779 ^a	-,182
	I think in pictures and have strong imagination	-,091	-,105	-,049	-,132	-,164	,031	,085	-,103	-,182	,745 ^a

a. Measures of Sampling Adequacy(MSA)

Figure 10: Anti-image matrices as a measure of sampling suitability IKII-10

The calculated communalities describe the variance proportions of the individual variables that can be explained by the extracted factors (sum of the squared loadings of a variable over all factors) (see Figure 11).

Communalities		
	Initial	Extraction
I listen carefully to my deepest feelings	1,000	,362
I believe in trusting my hunches	1,000	,407
I trust my initial feelings about people	1,000	,715
I am curious about many different things	1,000	,664
I like emotional situations, discussions and movies	1,000	,289
I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations	1,000	,591
In the inner silence I feel the unity with all people, with all creation and with universal spirituality	1,000	,638
Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition	1,000	,497
I think holistically and love systemic harmony	1,000	,315
I think in pictures and have strong imagination	1,000	,510

Extraction Method: Principal Component Analysis.

Figure 11: Communalities as variance shares explained by extracted factors IKII-10

4. Discussion

Intuition is an important and unique human competence. This ability has a high significance in the context of human judgment and decision making. Beyond that, however, intuition is also a key success factor in the field of inspirational intuitive knowledge imagination. The “System 1” described by Kahneman, as fast intuitive feeling and thinking, only partially describes the broad facet of human intuition. In the competition for the best ideas, another form of intuition is crucial. Inspirational intuition as “System 3”. This “System 3” embodies our slow, creative intuition that works incubational and illuminatively in secret. Embedded in analytical preparation, logical reasoning, and execution, our intuitive expertise is an essential component of the emotional invention process and empathy, in business settings and in scientific research (Kump 2021). A number of publications underline the importance and relevance of implicit forms of knowledge generation, especially in the research process (Bell / Willmot 2020; Behfar / Okhuysen 2018). The intuitive market scent of humans, their creative anticipation of the possible, forms a valuable corrective to purely logical analytics and increasing artificial intelligence. In this context, the ability of humans to perceive, feel and experience their environment is particularly useful. Only through

rational and intuitive perception, evaluation and action does a holistic field of action emerge. The developed inventory and the corresponding questionnaire (see Figure 20) can support the intuitive orientation and operationalization. Despite the improved operationalization of inspirational intuition, some methodological weaknesses must be noted. One methodological criticism is that much of the evidence relies on a self-report-questionnaire with potential self-report bias and falsification of responses is impossible to deal with completely. Another limitation is the limited scope. The ten questions obtained on the basis of a selected-review cannot, of course, describe inspirational intuition completely and consequently represent only a practicable selection. Nevertheless, the operationalization is a practical beginning and enables an enhanced perception and assessment of intuitive competence. In the used Likert-response item with choices varying from “Strongly Disagree” to “Disagree to “Neutral”, to “Agree” to “Strongly Agree”, it appears to be in the mind of the research participant whether or not there is an equal distance between each of these choices. Note that the above response options are “balanced” in that the items to the left of “Neutral” have an equal number of counterparts to the right of “Neutral”. If the response choice is unbalanced to either side, the possibility of that item being an interval measurement seems greatly diminished (Dawes 2008).

Questionnaire Inspirational Knowledge Imagination-Inventory (IKII-10)		Disagree strongly	Disagree a little	Neither agree nor not agree	Agree a little	Agree strongly
No.		1	2	3	4	5
1	I trust my initial feelings about people.					
2	I believe in trusting my hunches.					
3	I listen carefully to my deepest feelings.					
4	I like emotional situations, discussions, and movies.					
5	In the inner silence I feel the unity with all people, with all creation and with universal spirituality.					
6	Creativity is a process. I know about the enormous importance of unconscious incubation and the trust in intuition.					
7	I perceive my inner plurality, my inner voices and role models. Especially my intuitive inspirations.					
8	I think holistically and love systemic harmony					
9	I am curious about many different things.					
10	I think in pictures and have a strong imagination.					
<p>Instructions: Please answer the above questions regarding to your intuitive competence. Your answer should correspond to your ability to develop an inspirational knowledge imagination.</p> <p>1 means that you strongly disagree; 5 means that you are strongly agree.</p>						
IKII-10 Vers 1-2020						

Figure 20: Questionnaire Inspirational Knowledge Imagination-Inventory (IIKI-10)

5. Conclusion

Above all, the humanistic and ethical values epitomize deep empathic and intuitive action, that could not be achieved through logic and artificial intelligence alone. Through their Inspirational Intuition, the human side continues to help create holistic solutions in the change and design process. The Inspirational Knowledge Imagination-

inventory developed helps operationalize and select the intuitive skills to improve the methodological approach of knowledge generation and innovation. The intuitive competence is to be understood as an integral part of the competence spectrum. By the extension of the previous four partial competences (methodical, technical, social, personal), by the intuitive competence, the intuition is upgraded and firmly included in the competence development. On the one hand, in the sense of what Kahneman calls "System 1" fast thinking, which enables us to reach a judgment quickly and effortlessly on the basis of incomplete and contradictory information. This ability has evolved over the course of evolution and contributed to the survival of our species, particularly at the beginning of human development. On the other hand, as the "System 3" conceived here, as inspirational intuition. It is the creative, unconscious connection, between rational preparation, analytics and practical realization. Incubation and illumination become human incubators, visionary dream forges and power plants of flashes of inspiration. Already since Helmholtz, Poincare, and Wallas, intuition has been considered a classical component of creative thinking. It is time to rediscover this importance, to appreciate it and to use it creatively. Our intuition is what Albert Einstein called "a sacred gift" (Einstein 2020); it is what makes us humans special. Especially the intuitive dimension of the inspirational knowledge imagination, still remains the creative and hopefully also preserving key competence of humans. Above all, the humanistic and ethical values epitomize deep empathic and intuitive action that could not be achieved through logic and artificial intelligence alone.

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