Test Manual

MALAMUT Profiler

Test Battery for Assessing Entrepreneurial Potential, Social Competence and Team Role

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Contents

1. Introduction

Teamwork offers numerous advantages. For example, compared to the same number of individuals, teams are often able to accomplish more in a shorter time and benefit from synergy effects (Zysno, 1998). Often, teams exhibit higher levels of technical expertise, a greater wealth of experience, and more potential for innovation and creativity, among other benefits, due to their heterogeneous composition (Bell, Villado, Lukasik, Belau & Briggs, 2011). However, one major challenge remains, lying within the team itself. In order for a team to successfully cope with the demands placed on it – e.g., work on an in-house joint project, start-up project – it must function well. To accomplish this, both the competencies of the individual team members and their fit among each other are decisive. MALAMUT has identified three essential conditional factors for team success, which can be assessed with the test battery MALAMUT Profiler:

1. *The entrepreneurial potential*
2. *The social competence*
3. *The team role distribution*

The higher the *entrepreneurial potential* (1) – the ability to implement technical projects in an entrepreneurial manner (MALAMUT Test-EP) – the better a team understands how to operate effectively in business terms. Furthermore, the *social competence* (2) of the team or its members is decisive for the climate within the team (MALAMUT Test-SC). It does not only influence how the team deals with external requirements, but also significantly determines the quality of interaction within a team. The third component is the *distribution of team roles* (3) (MALAMUT Test-TR). Teamwork consists of different tasks, which can be handled by the team members in a division of labor. Measuring the distribution of roles in the team enables the members to become aware of the structure of their team, and to form a content-related picture of the different abilities of the team members.

In addition to the conditional factors for team success, the personal *goals, values and priorities* of each team member are assessed with the test battery. Team members are often not aware of the goals, values and priorities pursued by other team members in the work environment. Individual reflection is also often neglected or avoided. Identifying the goals, values and priorities objectifies the basis on which the team can build its cooperation and reduces points of friction.

2. Theoretical background

The MALAMUT Profiler is based on three dimensions: entrepreneurial potential (2.1), social competence (2.2) and team role (2.3). The theoretical background of these three dimensions is presented below.

2.1 Entrepreneurial potential

Entrepreneurs often work in situations that are new, difficult to assess, complex, and that create subjective time pressure (Baron, 2000). Since entrepreneurs usually rely on heuristics, various cognitive biases such as overconfidence may result (Baron, 1998, 2000). It is the entrepreneurially competent team member who positions and sells an expertly developed product or service in the marketplace, or help a working team achieve efficiency. Entrepreneurial potential is crucial to ensure economic progress and to lead projects to success: Among other things, it expresses whether tasks and requirements are approached analytically, or whether entrepreneurs are willing to work on challenging but realistic tasks (Müller, 2008). Thus, entrepreneurial potential represents one of the most important prerequisites for the success of an entrepreneurial activity.

2.2 Social competence

Riemann and Allgöwer (1993) attribute social competence to persons "who are able to interact with other persons in such a way that this behavior results in a maximum of positive and a minimum of negative consequences for one of the persons involved in the interaction" (p. 153). The relevance of social competence to the success of a team is most evident in interpersonal interactions. High social competence enables individuals to communicate and cooperate well with each other (Kanning, 2006; Sonntag & Schaper, 1992). This can also influence team success.

In addition to practical experience, university graduates may lack social skills. This was shown by the Augsburg UniMento[1] study from 2010, which was conducted with 249 employers from the Augsburg/Swabia region and examined the strengths and weaknesses profile of university graduates. The companies surveyed described a potential lack of teamwork, communication and integration skills. However, according to a survey conducted by the DIHK (German Chamber of Industry and Commerce) in 2007[2], it is precisely these skills that an applicant should have. Of the 2135 companies surveyed, 71% named the ability to work in a team as the most important skill, putting it in first place. The fourth most frequently cited skill is communication skills, with 59% of respondents naming it. The most important social skills expected also include commitment and a sense of responsibility, as confirmed by the DIHK (2011)[3]. This does not mean, however, that specialist knowledge plays a subordinate role; on the contrary, this is regarded by most companies as a necessary prerequisite, which is why personal and social skills play a significant role in the selection of applicants. At the same time, a lack of these skills

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[1] http://www.pressemitteilungen-online.de/index.php/universitaetsabsolventen-oftmals-defizite-in-sachen-teamfaehigkeit-und-vorausschauendem-handeln/
[2] http://www.wissenschaft.nrw.de/objektpool/download_dateien/studieren_in_nrw/Bachelor/studienreform.pdf
[3] http://www.hannover.ihk.de/fileadmin/data/Dokumente/Themen/Aus-_und_Weiterbildung/Ausbildung/hochschulumfrage-2011.pdf

is also the third most frequently cited reason, ahead of a lack of professional qualifications, for which 34% of companies dismiss employees during the probationary period. These results were confirmed in the subsequent survey conducted by the DIHK in 2011.

In sum, it can be stated that social competence is a skill in which university graduates show the greatest deficits compared to other specialist skills, and at the same time is of great importance for companies. The latter is not least due to the fact that social competence is one of the predictors that determine the success of entrepreneurs and managers. For example, Ferris, Witt and Hochwarter (2001) found that the relationship between social skills and job performance is particularly strong for people with above-average mental abilities. Accordingly, high social competence is a critical factor for success, especially for people in leadership positions. Payne (2005) also supports the finding that people who are successful at work have better communication skills and are more motivated to adapt their communication behavior. The significance of this finding becomes clear when considering that managers spend up to 80% of their work time communicating verbally (Mintzberg, 1989). Social competence is not only crucial for the success of an individual, but also important for the success of an organization as a whole, as this success is composed of the performance of individuals (Faix & Laier, 1991; Kanning, 2009). Furthermore, social competence is an important predictor of customer satisfaction in service organizations (Kanning & Bergmann, 2006). Kastner (1999) summarizes these findings as follows: "Social competence is the formula for those who want to succeed in the long run." It is important to capture social competence in the context of assessing individuals as well as teams.

2.3 Roles within the team – distributed leadership

In the field of start-ups, research focuses on the "team entrepreneur" because in many industries a variety of expertise is required which an individual cannot cover (Chowdhury, 2005). Hisrich, Langan-Fox, and Grant (2007) point out several benefits of teamwork: members can support each other, a wider span of skills exists, and thus greater potential for innovation. According to Hackman (1987), roles are an essential feature of teams. A role is characterized as a set of expectations regarding specific goal-directed behaviors of an individual in a particular situation (Stewart, Manz & Sims, 1999; Stewart, Fulmer & Barrick, 2005). Humphrey, Morgeson, and Mannor (2009) consider the main advantage of forming teams to be that a team includes members of different role characteristics. Ideally, when a specific requirement is placed on the team, the person with the most appropriate team role for that task must provide leadership and responsibility (Quinn, 1988; Quinn, Faerman, Thompson & McGrath, 2007; Cameron & Quinn, 2006). Leadership in a team is thus not exclusively centered on one person, but can be distributed among several people depending on the specific requirement (Pearce & Conger, 2003). In this context, the fulfillment and coordination of roles in the team is considered necessary to achieve effective teamwork and avoid process losses, such as social loafing (Steiner, 1972). In order to increase team efficiency and avoid frustrations within teams, team role analysis was integrated into the MALAMUT Profiler.

3. Test development and construction

3.1 MALAMUT Test-EP (Entrepreneurial Potential)

The MALAMUT Test-EP (entrepreneurial potential) analyzes entrepreneurially relevant personality traits by means of the questionnaire for the diagnosis of entrepreneurial potential (F-DUP; Müller, 2008). The F-DUP is a version of the entrepreneurial potential questionnaire by King (1985), which has been improved several times as well as redeveloped in parts by Fred Müller (Müller, 2008). The following characteristics are assessed by the MALAMUT Test-EP:

Table 1. Definition of the characteristics of the MALAMUT Test-EP[4]

Characteristic	Definition
Achievement motivation	The achievement motivation describes the willingness and ability to work on challenging tasks with a high level of commitment and to implement them successfully. Accordingly, the achievement motivation is the (willpower) that spurs people on to extraordinary achievements and to work on challenging tasks. This motivation makes individuals or teams willing to continue to push forward with their plans even after disappointments. Here, too, the higher the motivation to perform within a team, the more likely it is that work processes will be tackled and intentions will be implemented successfully.
Internal locus of control	The internal locus of control describes the tendency to experience oneself as an initiator or "doer" and to derive entrepreneurial self-confidence from this. A strong internal control conviction makes people strive for professional independence. This is important on both an individual and a team level. The higher the internal locus of control, the stronger the self-confidence to accept and master the challenges set.
Emotional stability	The characteristic of emotional stability describes the type and intensity of emotional reactions when people are confronted with unpleasant incidents or events. Emotionally stable individuals overcome frustrations more quickly than emotionally unstable individuals. Within a team, there should be a basic level of emotional stability so that team members can support each other in difficult phases.
Problem-solving orientation	The ability of problem-solving orientation enables people to perceive tasks and requirements as problems that can in principle be solved analytically and rationally. This ability is crucial both for individuals and for the success of the entire team, as this competence enables them to cope with the numerous "non-routine tasks" of the most varied tasks. A stable minimum of problem-solving orientation should be present in every team in order to be able to approach requirements analytically and cope with them professionally.
Uncertainty tolerance	The characteristic of uncertainty tolerance is that individuals and teams are able to deal successfully with unstructured, open and little regulated situations or tasks. This is important because varying tasks often require deviating from proven action strategies and developing new creative approaches. Accordingly, the tolerance for uncertainty should be as high as possible in order to confidently overcome uncertainties and compensate for them with new approaches.
Optimal risk propensity	A high risk propensity describes the individual and/or collective preference to choose alternatives in decision-making situations that have a high risk and a low probability of very high success. Individuals and/or teams that are too little willing to take risks prefer alternatives that offer more security, i.e., that promise a low but very probable success. It is critical for a team to have an overall *optimal* risk appetite that helps members see risk as calculable. Consequently, there should be a balance between risk affinity and risk avoidance in the team.

[4] The characteristic "assertiveness" (Müller, 2008) is recorded in the MALAMUT Profiler but is not reported separately because in preliminary studies it led to confusion among participants with the scale "İnitiation of interactions and relationships /extraversion" of the MALAMUT Test-SC. The scale is nevertheless included to determine overall entrepreneurial potential as described by Müller (2008).

Each of these six characteristics is measured with nine items, in which short statements with three answer alternatives each (example see below) must be rated. Among the three alternative answers, there is always only one alternative that is typical for the characteristic and for which one test point is awarded. In the following example, the selection of solution (2) would be diagnostic for the aptitude trait "uncertainty tolerance":

Example of an item of the characteristic "uncertainty tolerance" of the MALAMUT Test-EP

"Problems that appear uncertain…
... I do not take seriously." (1)
... I try to solve anyway." (2)
... I ignore from the outset." (3)

The F-DUP provides information about the quality of the entrepreneurial potential of individuals and can also be used for aptitude diagnostics of managers and entrepreneurs (Müller, 2008). In addition to the characteristics described above, the overall entrepreneurial potential is derived from the totality of all characteristics (63 items).[4] It expresses the general aptitude for entrepreneurial action and thinking.

3.2 MALAMUT Test-SC (Social Competence)

The Interpersonal Competence Questionnaire by Rainer Riemann and Annette Allgöwer (ICQ; Riemann & Allgöwer, 1993) is used to measure social competence in the MALAMUT Test-SC. This instrument for diagnosing social competence was originally developed by Buhrmester, Furman, Wittenberg, and Reis (1988). Here, social competence is subdivided into five different domains that are broad and comprehensive, theoretically significant, and distinguishable from one another (Riemann & Allgöwer, 1993). In 1993, the instrument was translated into German by Prof. Dr. Riemann at the University of Bielefeld. The German language version of the Interpersonal Competence Questionnaire (ICQ) captures the following scales:

Table 2. Definition of the characteristics of the MALAMUT Test-SC.

Scale	Definition
Extraversion	Extraversion describes a person's outward orientation and open-minded behavior. Basically, it can be stated that extraverted people interact actively with their environment and, due to their self-confident appearance, do not shy away from approaching people they do not know. The extraversion of a team shows its open-mindedness and sociability both externally and among the individual team members. Teams that show a high level of extraversion are active in and with their environment. The open-mindedness makes it easier for the respective team to form socially and economically effective networks in and between which they interact.
Assertiveness	Assertiveness describes the ability of a person or a team member to assert his/her interests and wishes. Thus, if a person or the members of a team are able to assert their opinion (ability), this does not mean that they must or want to do so (willingness). Since assertiveness in a team concerns an interactive process, it is important here that team members are able to communicate their opinions openly and find adequate communication channels.
Openness	The characteristic of openness describes the ability to communicate information about oneself to other people to an appropriate extent and depth. It also includes the knowledge of which person can be entrusted with which information. Accordingly, openness is the competence of an appropriate willingness to communicate in a private and corporate environment. Adequate, open handling of personal information in the team enables greater support in both social and work-related contexts and promotes cohesion between team members, even in difficult phases, as it creates an accurate personality image of the individual to the outside world.
Emotional support (of others)	The ability to provide emotional support is characterized by the need to respond to other people and to help them with problems. This ability goes hand in hand with empathy and sensitivity. In practical terms, emotional support is expressed through good listening, patience and considerate communication behavior, among other things. Emotional support among team members is especially important for cohesion within a team. If team members know how to respond to each other and support others, this has a team-stabilizing effect, which ideally makes the team a unit. However, care should also be taken within the team to ensure a balance between supporting others and the individual needs of team members.
Conflict management	The term conflict management encompasses a person's ability to deal with conflicts and to have an effective effect on them, especially in a de-escalating manner. This is done, among other things, through the use of conflict management techniques, which are not generally defined, but are problem-related and example-based. Other characteristics for individuals with a strong conflict management skill are tolerance, self-control, and the ability to suppress inadequate affective reactions. Team members with a strong conflict management competency have a good ability and strategies to deal with conflict and, most importantly, to de-escalate it. They effectively reduce the team's potential for conflict and enable greater tolerance and more effective interaction.

Each of the five scales is measured with eight items (40 items in total), on which hypothetical courses of action are listed and the respondent indicates on a five-point Likert scale how he or she usually behaves in the respective situation. The scale here ranges from "-2" to "+2," with a legend telling the participating person exactly what the numbers mean. "-2" stands for the poor ability to perform the

described behavior and the resulting discomfort, "+2" stands for the good ability to perform the described behavior and the resulting well-being.

Example of an item of the scale "conflict management" of the MALAMUT Test-SC

| "Being able to put begrudging (resentful) feelings aside when having a fight with a close companion." | -2 | -1 | 0 | +1 | +2 |

In addition, the overall social competence is averaged from the individual scales. It provides information about general social skills.

3.3 MALAMUT Test-TR (Team Role)

The MALAMUT Test-TR identifies the team role behavior of individuals. The Team-Role-Circle questionnaire developed by Micha Strack, Margarete Boos and Michael Belz is used to survey the distribution of team roles. It captures behavior of individuals in the context of teamwork and identifies eight individual team roles that are mapped in a circle when teams or individuals are tested. The eight team roles are arranged on two orthogonal axes (see Figure 1 and see Table 3).
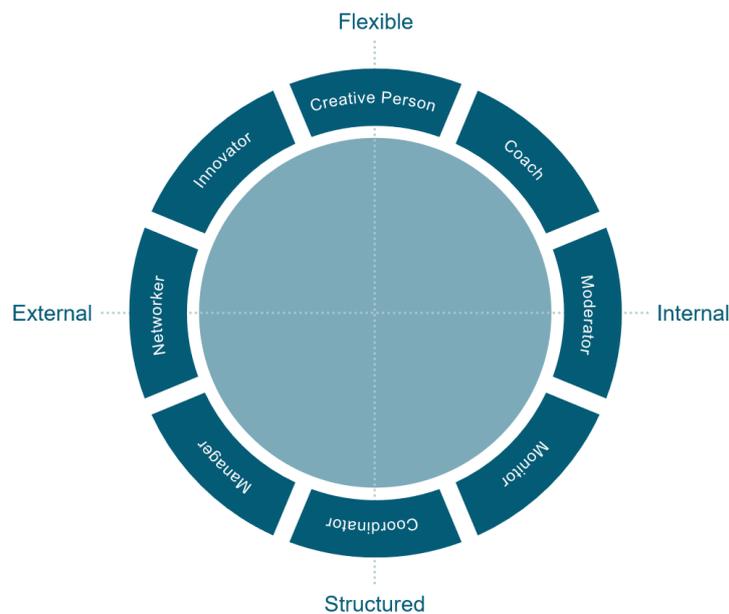

Figure 1. The Team Role Circle differentiates on the X-axis whether a person has an external or internal orientation in relation to work teams. If a person is internally oriented (team), he or she focuses on interpersonal processes such as the social climate in work teams. If a person is externally oriented (market), he or she focuses on e.g. canvassing, networking, etc. outside the team. On the Y-axis, the Team Role Circle differentiates between flexibility and structuredness. If a person is flexibly oriented, he or she often has high creative potential. If a person exhibits a structural orientation, he or she is interested in coordination and function of work processes. As is common in the Competing Values Model (Cameron & Quinn, 2006; Quinn, 1988), adjacent positions are not sharply delineated in the Team Role Circle. Individuals can easily occupy more than one of the adjacent roles. Opposite roles, however, pursue complementary goals. Only by distributing such roles among different individuals the dilemma of performing operationally incompatible functions in parallel can succeed.

Table 3. Definition of the team roles of the MALAMUT Test-TR

Team role	Definition
Coach	The coach has a promoting effect in the individual-social area of a team, in that he/she frequently assumes an advisory and supporting function, e.g. in the case of both private and professional difficulties or problems. He/she is also characterized by a pronounced pro-social behavior, which is expressed, among other things, in attentive and empathetic interaction with team members. With the help of the coach, subliminal discrepancies within a team can be identified and addressed, which contributes to conflict prevention within the team. In addition, he/she supports team members in their participation in team interaction.
Moderator	The moderator represents a link, as his/her perception is focused on the team itself. That is, he/she promotes the social cohesion and interaction of the team by providing structural and content moderation, e.g., of meetings and discussions. The goal is to strengthen the social cohesion of the team and the relationships among the team members, as the moderator promotes, among other things, tolerance for different opinions among the team members and concomitantly supports proposals for solutions or compromises. If conflicts do arise, the moderator actively attempts to mediate and thus minimize differences within the team.
Monitor	The monitor mainly takes over team-oriented organizational as well as administrative functions and activities, which manifests itself in activities like the preparation of protocols or the execution of organizational tasks. Furthermore, he/she manages different structure-creating organizational elements within a team, such as the email distribution list, thus creating the framework for team communication and coordination. Due to his/her awareness of communication and coordination processes, he/she is the first to identify discrepancies within a team and attempts to resolve them. In performing these tasks, he/she also excels in reliability, commitment and interpersonal skills.
Coordinator	The coordinator is often responsible for the structural review of procedures within a team. He/she ensures that work processes run smoothly and that plans and structures are adhered to. His/her main focus is on tasks concerning the coordination of work processes, controlling and quality assurance within a team. He/she also makes a significant contribution to quality assurance by demonstrating a high level of target focus and good planning skills.
Manager	The manager is strongly success- and goal-oriented, which is why he/she has a guiding and directing influence on other team members to ensure the highest possible effectiveness and efficiency in the implementation of tasks and the achievement of goals. He/she values the fact that all members of a team are equally motivated to work together to achieve goals as quickly as possible. Ultimately, he/she can be identified as a person aligned with rational, realistic, and economic motives who is comfortable working in performance-oriented, successful teams.
Networker	Since the networker often takes on the external representation of a team in negotiations and assumes responsibility for building and maintaining relevant networks, he/she defines him/herself as a representative of a team to the "outside world". The networker is considered to have qualities such as extraversion, communication skills, persuasiveness, and negotiation skills. Consequently, he/she primarily represents the external interface or the connection of the team to its environment and attaches great importance to a positive image of a team.
Innovator	The innovator is characterized by high creativity and open-mindedness and reacts flexibly to changes in his/her environment, such as market changes or changes in the corporate structure. Along with the knowledge of innovative novelties, he/she promotes the development of unconventional proposals and new ideas within a team. Despite unconventional and novel ideas, he/she is oriented towards the company/market and pays attention to realistic elements, such as the salability of a product. He/she is also largely independent of the team and is oriented to external circumstances.

Creative Person	The creative person views the team and its activities from an outside perspective. This enables him/her to step out of problem situations within the team, reflect in an unbiased manner, formulate opinions and, if necessary, identify mistakes. By means of this ability, he/she can provide new impetus to other team members to solve problems or identify alternative paths and minimize collective missteps. A high level of enthusiasm also contributes to communicating and presenting cognition-guiding ideas and suggestions to the team.
All-rounder	The all-rounder cannot be clearly assigned to any role, as he/she has a multiple skills from all roles. Due to the balance of his/her skills, he/she has a high dynamic development potential, which enables his/her team to use him/her in a wide variety of areas. Consequently, he/she is very versatile and able to fill any team role between team or market orientation and structured orientation or flexibility. His/her potential specialization should be decided depending on the existing team.

In the first step of the item development, items were formulated for the eight, intended equidistant roles in the Team Role Circle. The multi-block procedure was used, which is realized in the Competing Values Organizational Culture Assessment Instrument (OCAI, Cameron & Quinn, 2006; Strack, 2004) as well as in Belbin's Self Perception Inventory (BTR-SPI). In the first block, eight item formulations are given on a molar level describing the core of the respective role on a value level (e.g. "the result orientation", "the innovations"). The following three blocks each give eight operational behavioral descriptions (e.g. "setting deadlines", "calling for tolerance of other views"). The last block contains eight preference statements formulated at the value level (e.g., "validity of reliability," "maintaining independence"). This results in a total of 40 items. Each item is answered with a five-point, bipolar illustrated rating, from "-2" = "almost never" to "+2" = "almost always".

Example of an item of the team role "Coordinator" on molar level:

"In my team I assume responsibility for…

  ... audit trail and organizational tasks. "

-2	-1	0	+1	+2

Example of an item of the team role "Coordinator" on behavior-describing level:

"In teams…

  ... I administrate our organizational tools (email accounts, etc.). "

-2	-1	0	+1	+2

Example of an item of the team role "Coordinator" on value level

"Whether I like being part of my team depends on…

  ... whether everyone is doing what he or she has committed to do. "

-2	-1	0	+1	+2

In addition to the eight delineated team roles (see Table 3), mixed roles can also be determined, each of which combines core competencies from two neighboring roles. This results in a total of 16 role characteristics – and the all-rounder – to which individuals can be assigned.

4. Structure and application of the MALAMUT Profiler

This chapter describes the structure and handling as well as the application areas of the MALAMUT Profiler. In addition, the evaluation and the interpretation of the results are presented. Furthermore, hints are given for the handling of the results and the insights generated from them, both for teams and for individuals.

4.1 Description

The MALAMUT Profiler is performed as an online questionnaire and is composed of the three tests EP, SC and TR described above (for an overview of all components see Table 4).

Table 4. Components of the MALAMUT Profiler

Component	Information
Test-EP	63 items. The 6 characteristics described in 2.1 and the overall entrepreneurial potential are assessed.
Test-SC	40 items. The 5 characteristics described in 2.2 and the overall social competence are assessed.
Test-TR	40 items. The 8 team roles and 8 mixed roles described in 2.3 are assessed.
Goals, values, and priorities	3 choice lists. Choices are presented, from each of which 3 are to be selected (Goals: 11 possibilities; Values: 10 possibilities; Priorities: 9 possibilities).

In addition to the psychometric tests, personal goals, values and priorities in the work environment are queried by means of selection lists in which at least three goals, values and priorities are to be selected in each case. Practice shows that individuals who reflect on themselves and have thus intensively dealt with their goals, values and priorities before starting their job can derive advantages from this and, for example, are more likely to believe that they will be able to cope with future tasks (Stajkovic & Luthans, 2003). These benefits of becoming aware can have a positive impact on collaboration, especially in a team. Guided by the questions "What am I doing something for?" (goal-related), "Why am I doing something?" (value-related) and "What are my priorities?" questions of meaning clarify for the individual. By dealing with these aspects, it becomes clear to the individual for which motives he/she is acting and it is thus easier for him/her to develop or reinforce efficient (work) structures and to increase motivation. One example of individual choices for goals, values and priorities is illustrated below:

Example for the selection of personal goals, values and priorities:

Personal goals:	(1) social acknowledgment
	(2) ranked among the best
	(3) be a role model for others
Personal values:	(1) security
	(2) tradition
	(3) power
Personal priorities:	(1) my family
	(2) my friends
	(3) my reputation

4.2 Areas of application

The MALAMUT Profiler assesses potentials of individuals and teams in the areas of entrepreneurial potential, social competence and the team role. It can be conducted in about 30-45 minutes. The target groups of the MALAMUT Profiler include existing teams in various organizational/economic or clinical contexts as well as teams that are in the formation phase. In addition, the test is aimed at individuals who are planning entrepreneurial activity and/or self-employment. It can also be used in personnel selection to determine whether entrepreneurial and social competencies are sufficiently present or whether a person fits into an existing team. Table 5 gives an overview of the areas of application and target groups of the test.

Table 5. MALAMUT Profiler: areas of application

Target group	Teams	Individuals
Companies	- Diagnosis of (project) teams - Gain of knowledge (strengths & weaknesses) - Team evaluation - Composition of new teams, e.g. project teams, based on the role fulfillment of the individual potential team members	- Identification of strengths and weaknesses of individual employees - Employee development - Personnel development
Financial institutions	- Assessment of the quality of founding teams (entrepreneurial know-how, social competence) - Analysis of the quality of the team composition and identification of possible weak points	- Assessment of the quality of founders (in terms of entrepreneurial know-how and social competence)
Start-up consulting	- Use as a reference (for investors, cooperation, etc.) - Team members can use the team profile to see whether they fit together based on individual task performance and the roles they take on in the team	- Information about entrepreneurially relevant motives - Identification of own behavioral tendencies and comparison with self-perception - Identification and effective use of strengths - Compensation of weaknesses

In addition to the implementation of the test by the aforementioned groups, there are other potential users. These include coaches, consultants, managers, people from the credit sector and the area of personnel selection and development. They can use the test results of their employees, customers, potential borrowers or applicants – assuming their consent – for their decisions. The use of the MALAMUT Profiler as an online procedure requires the ability of the user to work with a browser and

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is not bound to a certain operating system or specific previous knowledge. No additional software needs to be installed.

4.3 Implementation

The implementation of the MALAMUT Profiler takes place online, is self-explanatory and takes about 30-45 minutes. Since the questions refer to personal assessments and perceptions, there are no right or wrong answers. Regardless of the context used, participation should always be voluntary. In addition, participants should be informed about the goals of the survey, as an atmosphere of trust is a prerequisite for answering the questions honestly. The decision to allow others to view one's own data is always up to the user him/herself. In the area of personnel development or the granting of loans for founders, agreements must therefore be made. Teams can also decide for themselves to what extent data is passed on to superiors.

✱In my team I assume responsibility for...

	almost never -2	-1	0	+1	almost always +2
... coaching and supporting others.	○	○	○	○	○
... maintaining periodic open minded reflection.	○	○	○	○	○
... maintaining a result orientation.	○	○	○	○	○
... audit trail and organizational tasks.	○	○	○	○	○
... innovations.	○	○	○	○	○
... networking and marketing.	○	○	○	○	○
... quality control management.	○	○	○	○	○
... moderating meetings and mediating conflicts.	○	○	○	○	○

Figure 2. Running the MALAMUT Profiler in the browser.

4.4 Analysis

The answers to all test items are evaluated after their input in the form of a written profile. There, in addition to the results of the individual characteristics/traits for all three tests (MALAMUT Test-EP, -SC and -TR), explanations are presented for the meaning of the values obtained. The profile is transmitted by the Malamut Team Catalyst GmbH to the client upon request. In addition, team profiles can be generated based on the individual results for several persons (minimum two to maximum ten persons). The individual as well as the team profiles do not contain any names; no data is collected that could be traced back to a specific person. The questionnaire is accessed via an access key (token), which is used to name the evaluation. In this way, participants can decide for themselves whether to disclose their individual results (for an overview of the components of both profiles, see Table 6).

Table 6. Components of the individual profiles and team profiles of the MALAMUT Profiler

Components	Individual profile	Team profile
Short overview	- Presentation of the results of all tests at the individual level, on one page	- Presentation of the results of all tests at group level (mean values), on one page
(1) Test-EP	- Explanation of all characteristics and their meaning for individuals - Interpretation and graphical representation of all characteristics - Explanation and interpretation of the total entrepreneurial potential on individual level	- Explanation of all characteristics and their meaning for teams - Interpretation and graphical representation of all characteristics - Explanation and interpretation of the overall entrepreneurial potential at team level
(2) Test-SC	- Explanation of all scales and meaning for individuals - Interpretation and graphical representation of all scales - Explanation and interpretation of the overall social competence on individual level	- Explanation of all scales and meaning for teams - Interpretation and graphical representation of all scales - Explanation and interpretation of the overall social competence on team level
(3) Test-TR	- Explanation of the function of team roles - Graphical representation and interpretation of the individual team role and its importance for potential team work	- Explanation of the function of team roles - Graphical representation and interpretation of all team roles of the team - Interpretation of the balance of the team role distribution and possible synergies and/or friction points in the team
(4) Goals, values, and priorities	- Tabular representation of individual goals, values and priorities - Interpretation aid	- Tabular representation of the goals, values, and priorities of all team members - Interpretation aid

Individual profile

Individual profiles are always addressed to the person who filled out the MALAMUT Profiler. Individual profiles can only be passed on to others with the consent of this person. Each individual profile contains a brief summary that summarizes the key results of the three MALAMUT tests EP, SC, and TR on a single page (see Figure 3). In addition, the average scores of the norm sample collected by Malamut Team Catalyst GmbH are displayed in the graph. Subsequently, the characteristics of the MALAMUT Test-EP, the scales of the MALAMUT Test-SC, and the individual team role of the MALAMUT Test-TR are listed in detail, described, and the individual's performance is explained (see Section 4.6). Finally, the individual profile tabulates the individual goals, values, and priorities.

Figure 3. Brief overview of individual profile results. Mean scores (light bars) of entrepreneurial potential (MALAMUT Test-EP) and social competence scales (MALAMUT Test-SC) are based on a population-representative sample (project teams of universities of applied sciences/universities, members of entrepreneurial and start-up teams). Norm values N_{total} = 1456.

Team profile

Team profiles are always addressed to a group of individuals whose members have all completed the MALAMUT Profiler. Each team profile also contains a brief overview in which the key results for the diagnosed team are presented. This differs from the individual profile in two ways: (1) In the team profile, the results of the MALAMUT Test-TR are first presented in full-page format, since team role distribution, and thus team role fit, can be the most critical outcome for assessing a team (Figure 4). (2) Analogous to the brief overview of the individual profile, the characteristics of the MALAMUT Test-EP and the scales of the MALAMUT Test-SC are presented on one page (Figure 5). Then, all results are listed in detail, and the team's scores are explained (see Section 4.6). The team's individual goals, values, and priorities are tabulated and an interpretation guide is provided.
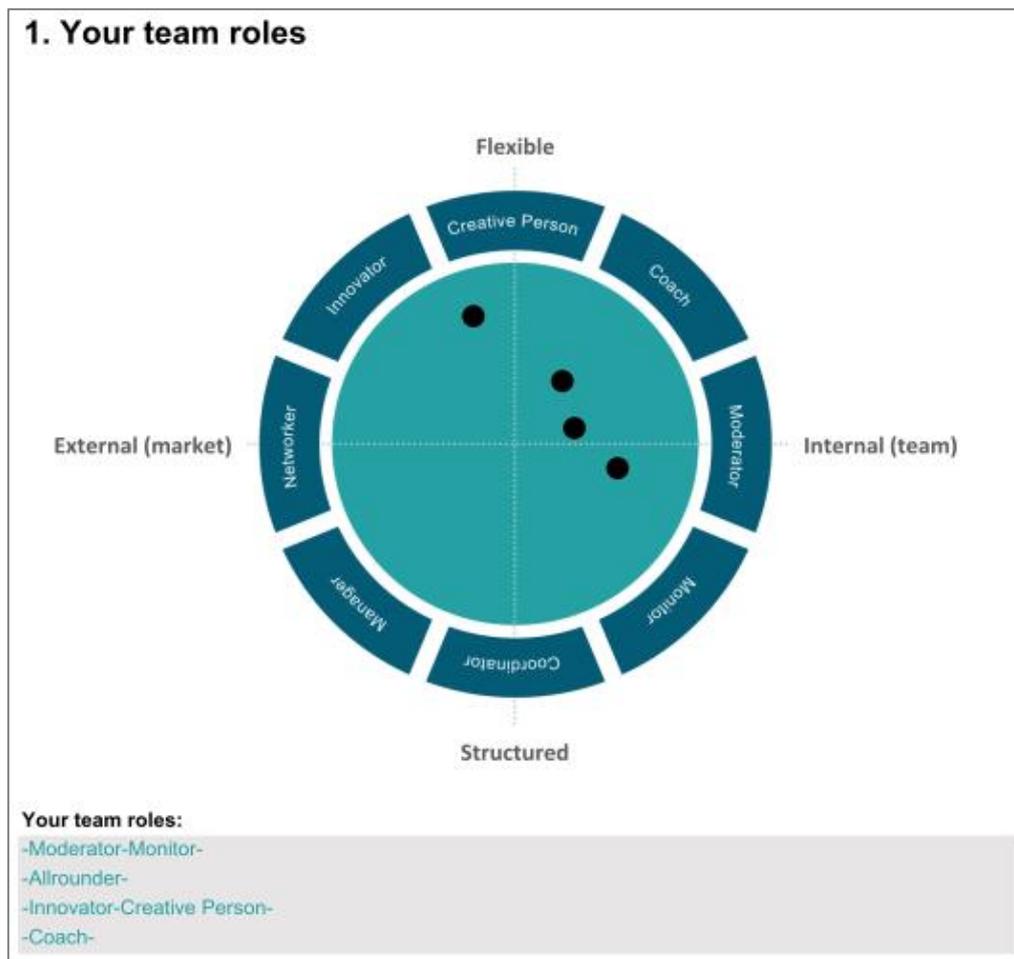

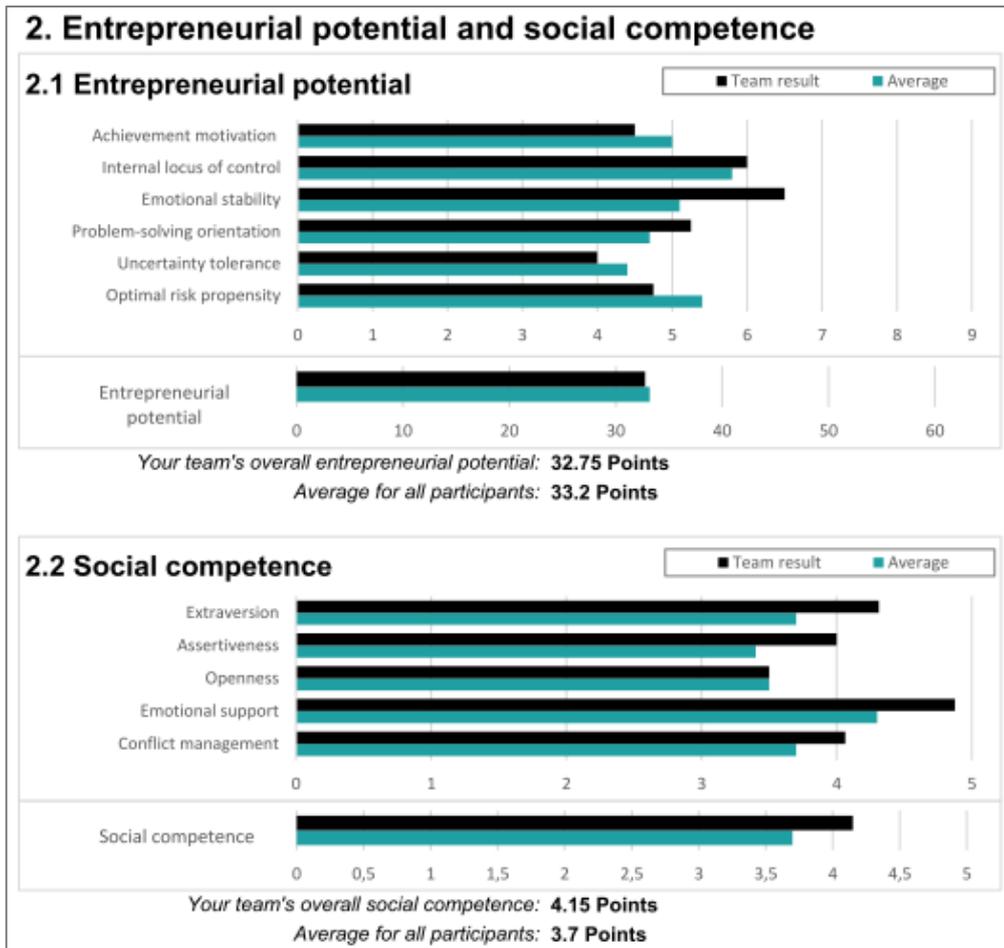*Figure 4.* Brief overview of the team role distribution (MALAMUT Test-TR) within a team profile.

Figure 5. Brief overview of the results of a team profile for entrepreneurial potential (MALAMUT Test-EP) and social competence (MALAMUT Test-SC). Mean scores are based on a population-representative sample (project teams from colleges/universities, members of entrepreneurial and start-up teams). Normwerte Norm values N_{total} = 1456.

4.5 Interpretation

The meanings of the characteristics, scales and team role(s) surveyed are fully explained in the individual and team profiles using text modules.

MALAMUT Test-EP and MALAMUT Test-SC

For the MALAMUT Test-EP and the MALAMUT Test-SC, threshold values are used to determine whether the proficiencies of each individual aptitude trait lie in the low, medium or good range. In addition, the average value of the norm sample is given as a guide in the figures. Meanings of the individual characteristics and scales are described after the brief overview (Figure 3), and the proficiencies of the individual (Figure 6), or team (Figure 7) are commented on directly.

4.1.5 Uncertainty tolerance

Characteristic of those with uncertainty tolerance are people who can successfully deal with unstructured, open and barely regulated situations of work life. Executives often have to deal with tasks that cannot be solved by applying well-tried or strictly rational strategies. Uncertainty tolerant people find it easier to apply creative and innovative approaches to those situations. They are attracted to unstructured tasks and appreciate the innovative possibilities of such situations. In contrast, uncertainty intolerant people try to avoid unstructured situations. They are nevertheless confronted by such situations but are uncomfortable and intimidated and react accordingly.
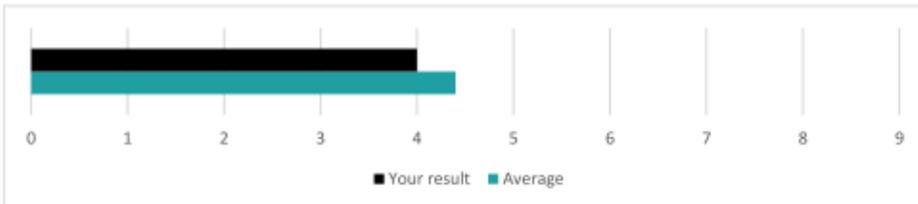
Your uncertainty tolerance: **4 Points**
Average for all participants: **4.4 Points**

Your uncertainty tolerance scores are at a medium level. This suggests that you possess varying characteristics. On the one hand, you are able to deal with unstructured tasks and thus compensate for uncertainties. On the other hand, you do not actively seek such situations. Within the context of your leadership responsibilities at work, you should focus on the further development of design options for open-ended situations, develop your sense of innovative solutions to entrepreneurial problems, and promote a more positive attitude towards dealing with ill-structured situations.

Figure 6. Interpretation of a characteristic of the MALAMUT Test-EP in a single profile, using uncertainty tolerance as an example.

5.1.5 Conflict management

Conflict management skills are of crucial importance for a team. If the team members possess good conflict management skills, they have the abilities and strategies to deal with conflicts and, above all, in a de-escalating way. Such skills reduce the potential for conflict within a team and promote higher tolerance and more effective interaction. If there is adequate conflict management among the team members, they will often find it easier to react calmly to conflict situations, approach opposing viewpoints with tolerance, and avoid or compensate for controversy. Emotional reactions will be reduced. However, it is not always useful to avoid conflicts and constantly demonstrate tolerant behavior. A certain amount of conflict can be clarifying and a source of inspiration, innovation, etc. Thus, a balanced ratio of tolerance and harmony with respect to assertiveness and conflict should prevail.
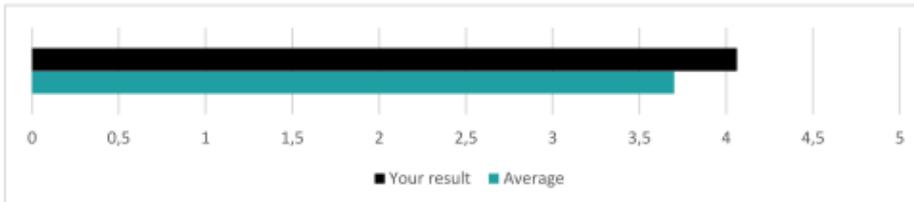
Your team's overall conflict management: **4.06 Points**
*Average for all participants:* **3.7 Points**

The ability to manage conflicts is optimally expressed in your team. Your team members are highly willing and/or able to apply adequate conflict management strategies. They are able to create a good balance between harmony and conflict within the team. If conflicts occur, they will encounter them with a high degree of openness and tolerance, without losing sight of their personal point of view. They are interested in utilizing conflicts and overcoming them effectively. They are able to tackle conflicts with an appropriate behavioral intensity scale and to derive appropriate behavioral strategies.

Figure 7. Interpretation of a scale of the MALAMUT Test-SC in a team profile, using the example of conflict management.

MALAMUT Test-TR

For the MALAMUT Test-TR, the meaning of team roles is described in general and then the individual expression (individual profile, Figure 8) or the team expression (team profile, Figure 9) is shown graphically. While the individual profile explains the personal role expression, the team profile lists all role expressions of the team and comments on the balance of the team role distribution and possible synergies and/or points of friction.

6.1 Your personal team role
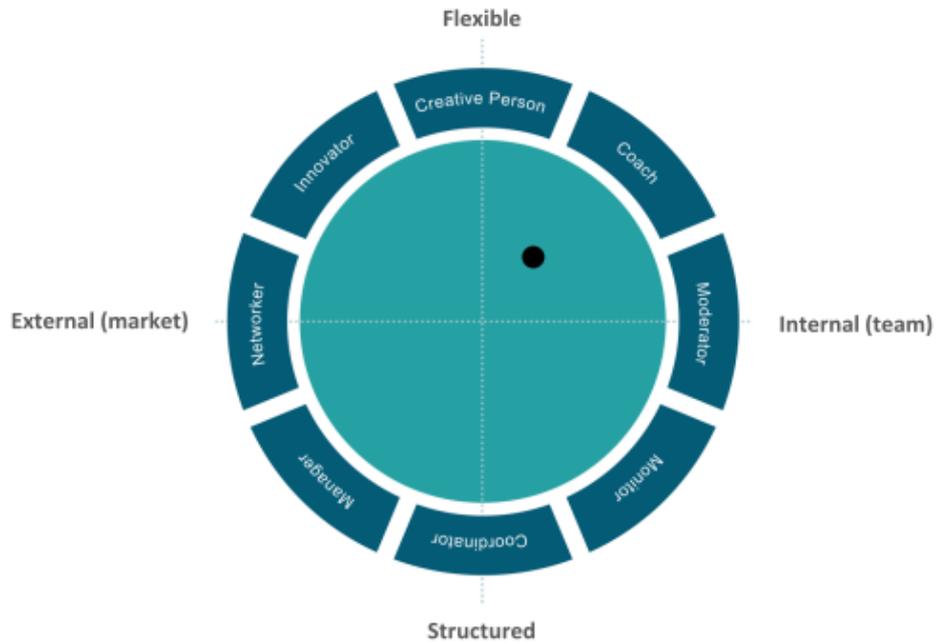
Based on your individual data, you have been assigned the team role of coach. The coach is especially helpful on the individual social level within a team. The coach often assumes a consultative or a supportive role. Inherent with this, you display an extensive pro-social behavior that results in attentive and empathetic interaction with your team members. You find it easy to adjust to your team members and show empathy towards them. You are helpful and willing to offer your support when difficulties or problems arise. This behavioral style also enables you to identify and bring up subtle discrepancies within the team, which helps to prevent future conflict. Furthermore, you support your team members when interacting within the team, since a just interaction is important to you. Your support on a personal level is highly valued by many of your colleagues. Oftentimes, you are the point of contact for discussing private problems that could arise as a consequence of a heavy workload. You deal with these problems in a flexible manner and aim to provide a problem-solving strategy for each person who approaches you. Exercising this consultative and supportive function is important to you. You therefore measure the attractiveness of a team depending on the opportunity to exercise the role of a coach in the team.

Figure 8. Representation of a team role in the individual profile.

3.1.1 Your team constellation
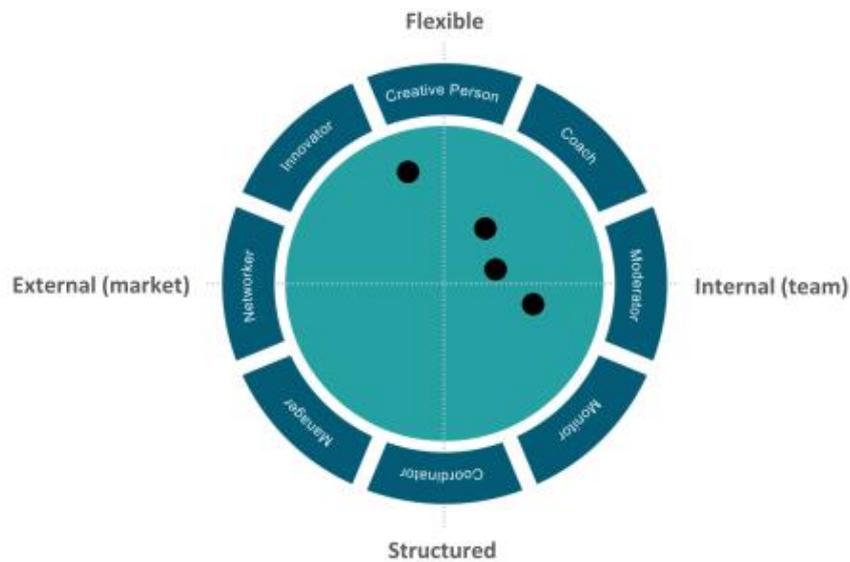
To meet all cooperation requirements within the team, it is advantageous to have a balanced distribution of roles within the team. This does not mean that every team member has to cover all roles, but rather that the team members, by virtue of their different roles and associated skills and behavioral characteristics, are able to meet the different demands placed upon them. Thus, the roles of the team members should be located at a sufficient distance in the team circle to cover as many areas of expertise as possible.

You have an all-rounder in your team. This role combines the strengths of all team roles and therefore comprises a wider, less specialized spectrum of competencies. All-rounders often fulfill many tasks in a team or are not clearly allocated to a specific area. This can lead to the duplication of competencies and lead to certain process losses. Some tasks may be processed twice and this may result in wasted time and effort. Unclear division of competencies due to a lack of coordination also poses potential for conflict, as misunderstandings can easily arise. However, all-rounders are better than others at covering areas that are not fully addressed by the rest of the team. You should take advantage of this opportunity for your team.
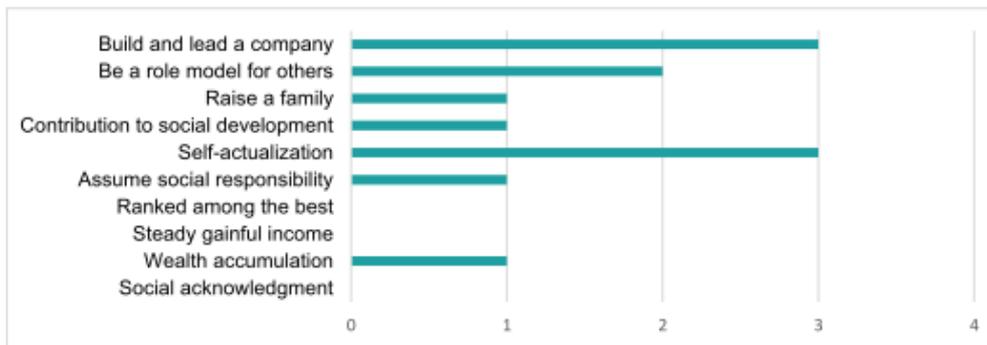
Overall, it appears that the roles of your team members are sufficiently distinguished from each other. However, there are some overlaps in the covered team roles, which can lead to the assumption of similar tasks. This can result in a one-sided type of action and interaction. As a broad spectrum of different roles with different task areas is the optimum basis for a high working efficiency, team members with similar roles should decide together, whether a specialization in the same area makes sense, or if tasks that have been neglected thus far could be covered by one of these team members. By using the individual evaluations, you may uncover some competencies that qualify individual team members for the adoption of a different role. Team members with similar roles will thereby increase their distance on the team role circle and cover more diverse roles. Through the resulting constellation of your team, you can reallocate your team members' specific skills and employ them more efficiently.

Figure 9. Representation and explanation of several team roles in the team profile.
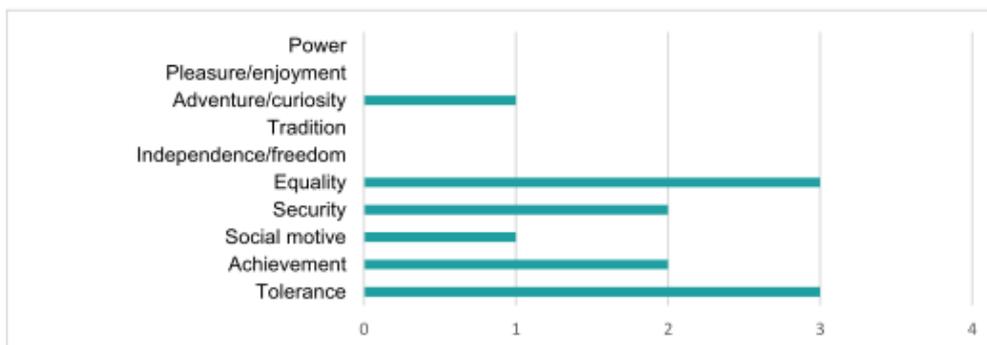
Goals, values and priorities

Goals, values and priorities are presented descriptively. In contrast to the EP, SC and TR tests, no interpretation of the data is carried out here, but the results are simply made known to the individual persons or teams. In the team profile, the most frequently stated goals, values and priorities in the team can be read off (Figure 10). They are intended to help the team discuss possible differences or commonalities and thus avoid or deal with misunderstandings.
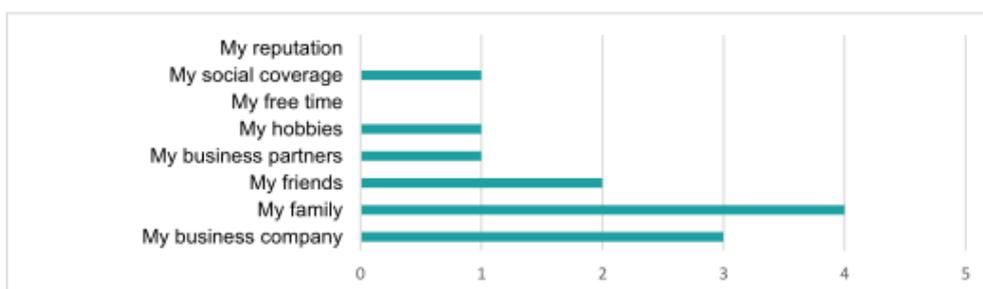

Figure 10. Representation of goals, values and priorities in a team profile.

5. Empirical findings

This chapter reports the findings of various empirical studies on the objectivity, validity and reliability of the MALAMUT Profiler. There are 12 studies on the validity of the EP, SC and TR tests (see Table 7). The findings of the studies on the individual tests are presented in separate sections.

Tabelle 7. Empirische Studien zu den Tests des MALAMUT Profilers

Test	Source	Sample
(1) Test-EP	- Müller (2008)	- N = 155 Students
	- Strack & Siegmund (2010)	- N = 1133 Entrepreneurs
(2) Test-SC	- Kanning (2006)	- N = 1950 Police officers - Reference to 7 other studies for correlation analyses
(3) Test-TR	- Belz, Strack, Ergezinger & Boos (2010)	- Study 1: N = 337 students - Study 2: N = 166 students in N = 52 project teams

5.1 MALAMUT Test-EP

The development and the associated validation of the questionnaire for the diagnosis of entrepreneurial potential (F-DUP, MALAMUT Test-EP) which consists of 63 items, took place at the University of Koblenz-Landau under the direction of Prof. Fred Müller (Scientific Advisory Board MALAMUT Team Catalyst GmbH). The reliability of the items of the individual characteristics determined by Müller (2008, N = 155) vary between α = 0.59 (uncertainty tolerance) and α = 0.78 (emotional stability), whereby the test-retest reliabilities lies between rtt = 0.62 (assertiveness) and rtt = 0.79 (internal control conviction). Regarding construct validity, it could be shown that the expression of overall entrepreneurial potential correlates with the strength of individuals' action orientation (r = 0.44; Müller, 2008). Furthermore, factorial validity is present, since the test values of the individual characteristics correlate only slightly with each other (all coefficients < r = 0.30; Müller, 2008).

Strack and Siegmund (2010) provide empirical evidence that the aggregation of the individual characteristics to the overall entrepreneurial potential seems reasonable (α = 0.65, N = 1133). The overall entrepreneurial potential plays an important role for funding recommendations of state incubators: The higher the score, the more likely was the admission to state start-up support (p < .001, N = 1100) and the probability of a positive annual report (p = .11, N = 147). Thus, for the MALAMUT Test-EP, it was possible to show that a highly pronounced entrepreneurial potential increases the probability of entrepreneurial success.

5.2 MALAMUT Test-SC

In a validation study by Kanning (2006, N = 1950), the observed reliabilities for the five scales of the Interpersonal Competence Questionnaire (ICQ), whose 40 items are used in the MALAMUT Test-SC, ranged from $\alpha = 0.72$ to $\alpha = 0.84$. The overall social competence from all 40 items achieved an internal consistency of $\alpha = 0.91$. Kanning (2006) was able to empirically confirm the factor structure of the ICQ. Correlation analyses between scales of the ICQ and the Big-Five showed that the scale "Initiation of interactions and relationships" is highly correlated with "Extraversion" ($r = .60$, $p < .001$, see Table 8), which is why it is called "Extraversion" in the MALAMUT Test-SC for easier understanding. Numerous correlations between the scales of the ICQ and other variables from seven other studies (Kanning, 2006) underscore the validity of the procedure: for example, "Openness" correlates highly with "Social Confidence" ($r = .41$), "Emotional Support" correlates highly with "Femininity" ($r = .60$), and "Conflict Management" correlates highly with "Social Attractiveness" ($r = .46$). Thus, structural stability, reliability, and validity could be empirically supported for the MALAMUT Test-SC (Kanning, 2006).

Table 8. Correlation between ICQ and NEO-FFI scales (Kanning, 2006; *** $p < .001$; * $p < .05$)

ICQ NEO-FFI	Extraversion	Assertiveness	Openness	Emotional support	Conflict management
Extraversion	.60***	.26***	.42***	.35***	.21***
Neuroticism	-.37***	-.32***	-.25***	-.31***	-.36***
Conscientiousness	.31***	.33***	.26***	.38***	.36***
Openness	.21***	.07*	.16***	.21***	.16***
Agreeableness	.18***	.01	.24***	.30***	.34***

5.3 MALAMUT Test-TR

The validation of the Team Role Circle (TRC, MALAMUT Test-TR) which consists of 40 items, was conducted by MALAMUT GmbH at several universities[5] in Germany and by PD Dr. Micha Strack with student project teams. The results of the validation were presented in 2010 at the Congress of the German Psychological Society (Belz, Strack, Ergezinger & Boos, 2010; $N_{total} = 503$). The role structure of the TRC could be substantiated. The determined axis reliability was $r = .68$ (see Figure 10).

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[5]   Evaluation at the following universities: EBS University of Economics and Law Oestrich-Winkel, Otto von Guericke University Magdeburg, TU Dortmund, University of Kassel, Bergische University Wuppertal, University of Koblenz
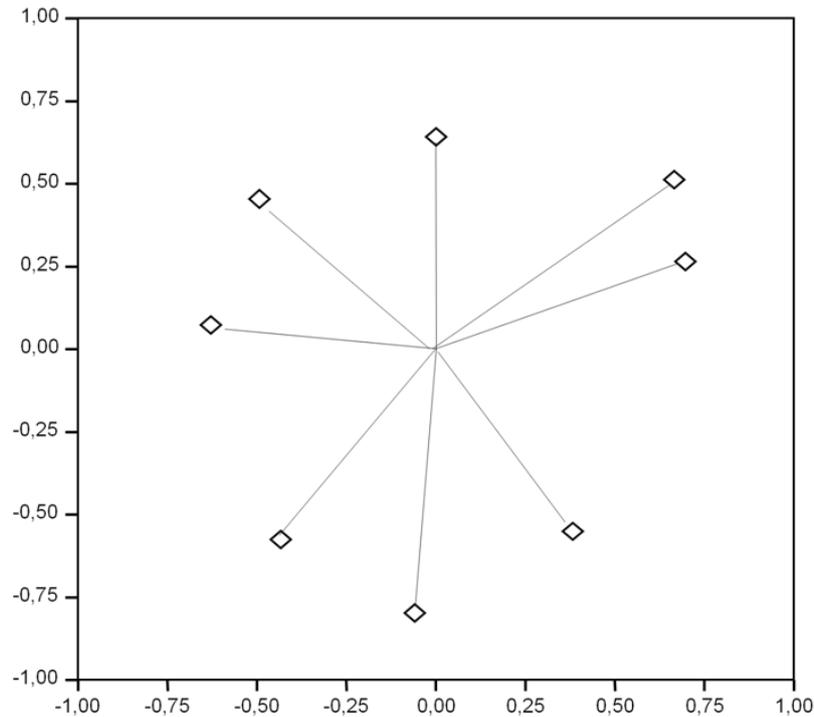
Figure 11. The MALAMUT Test-TR achieves an empirical axis reliability of r = .68. the role structure of the Team Role Circle could thus be empirically proven.

A positive correlation of optimally distributed team roles and the performance of student project teams could also be shown ($N = 166$; 52 teams, $r = .30$, $p < .05$), whereby an increased distribution of roles in accordance with expectations did not lead to more conflicts in the teams ($r = .07$, *ns*). Reliability and validity were thus confirmed for the MALAMUT Test-TR.

6. Standardization

The sample used for the standardization of the MALAMUT Profiler consists of $N_{total} = 1456$ persons and is composed of members of project teams at universities of applied sciences/universities and members of entrepreneurial and start-up teams[6]. The validity of the average values presented in the individual and team profiles is high due to a broad portfolio of teams diagnosed so far for a wide range of test users: So far, teams from the fields of innovation/product development, personnel selection and services, among others, have completed the MALAMUT Profiler.

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[6] Personal data (age, profession, industry) that would allow conclusions to be drawn about individuals/teams were not recorded for data protection reasons.

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