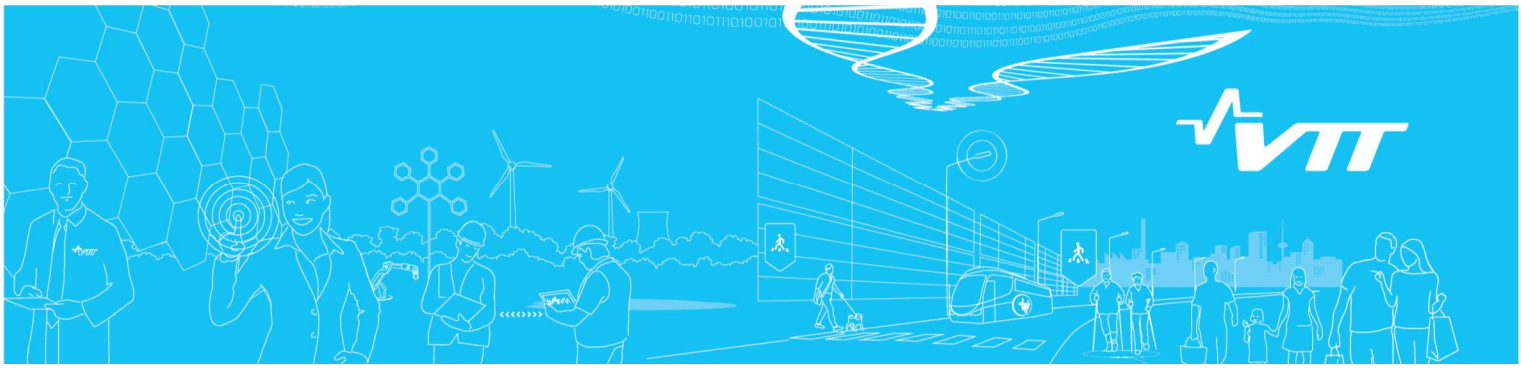
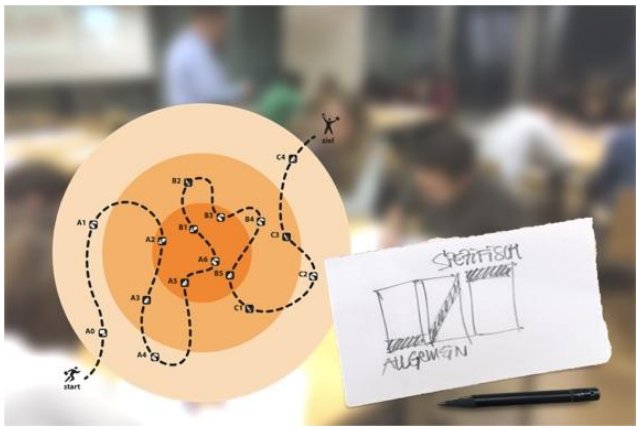


CUSTOMER REPORT

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doga – Designorientierte Gründungsarbeit project Evaluation report

Author: Juha Oksanen

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Report's title

doga - Desingorientierte Gründungsarbeit project. Evaluation report

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Summary

The objective of the doga – Designorientierte Gründungsarbeit project was to develop and pilot a training programme which advances and disseminates understanding of design as an important element of entrepreneurial strategies. The primary target group consisted of early stage start-up and would-be entrepreneurs. In addition, the project targeted designers and other creative industry professionals, and start-up coaches from organisations supporting new businesses.

A module based training programme comprising of lectures, seminars, workshops and jam sessions was successfully developed and piloted. The programme provides a framework for teaching design oriented thinking and prepares the ground for embedding of the approach in everyday practises of the start-up entrepreneurs. In total 66 persons participated in the 12 training events organised in Innsbruck by the end of March 2016. 33 of the participants were start-up and aspiring entrepreneurs. There are clear indication about positive link between perceived learning outcomes and frequency of participation. Therefore it is important to pay attention to reasons for variation in attendance between individual training sessions and rather low number of participants attending in two or more training events

The methods applied in the training events were intense and interactive and offered an opportunity to experience design thinking approach in practise. The events enabled mutual learning by bringing together participants from different educational and professional backgrounds and different phases of start-up life-cycle. The participants differed from each other in terms of pre-understanding and expectations they had towards the content of training sessions. Expectations of the start-up coaches and the more experienced start-up entrepreneurs call for closer look in order to increase the perceived benefits of the sessions. Scalability and dissemination of the doga approach across Austria in future requires that the challenges discovered during the implementation of the pilot project are carefully considered. The main issues identified in the evaluation are as follows: 1) how to communicate the key message and aims of the programme to the diverse target groups, 2) what are the means with which the early stage start-up and aspiring entrepreneurs can be encouraged to participate more frequently in the training events, and 3) in which way compatibility of the training programme and start-up coaching can be strengthened and enhanced.

Espoo 18.10.2016

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Executive summary

Using design strategically can offer a source of competitive advantage for Austrian companies. At the business level, design can readily be applied in creation of new product concepts and in search of market opportunities based on customer needs. Still, it seems that the full potential of design approach is rarely taken into account in corporate strategies. To address the issue, a project consortium of CAST Gründungzentrum GmbH in Innsbruck, GP designpartners GmbH, Marcus Ambrosch (effectuation expert) and MCI – Management Center Innsbruck set up the doga, Designorientierte Gründungsarbeit project. The aim of the project is to develop and pilot a training and coaching programme which advances and disseminates understanding of design as an important element of entrepreneurial strategies. Business and design is linked in the project through effectuation which refers to a practice of experienced entrepreneurs to focus and start from available resources (such as preferences, knowledge, experience and personal networks) - as opposed to planned and future available resources. The project is implemented between October 2013 and September 2016. The funding has been granted by the Austria Wirtschaftsservice GmbH (aws) through impulse LEAD programme.

The primary target group of the pilot project consists of early stage start-up and would-be entrepreneurs who are understood to be more open to new ideas in comparison to seasoned business managers and entrepreneurs. In addition, the project has been tailored to cater to designers and other creative industry professionals, as well as start-up coaches from organisations supporting development of new companies.

This evaluation addressed three questions: (1) Whether the project has succeeded to develop concepts, methods and modules which support immersion of start-up entrepreneurs and would-be-entrepreneurs into design oriented thinking and effectuation approach; (2) Whether the project has managed to inform the participating start-up coaches about benefits, ‘tools’ and ‘mind-sets’ of design oriented approaches for new and would-be entrepreneurs; (3) What are the immediate outputs of the project and whether there are indications of longer term impacts of the doga activities, and if there are prospects for scalability of the pilot project.

Development of training and coaching programme

The project team has successfully developed and piloted a module based training and coaching programme, a doga Curriculum, which introduces the concepts and methods of design oriented thinking to the participants. The first version of the module structure was drafted in parallel with the project plan preparation and has been developed further on the basis of experience and feedback gathered during the project implementation.

The programme structure consists of three interlinked sets of modules of which the set A introduces to the participants designer’s way of thinking and teaches and disseminates basic skills that the start-up and would-be entrepreneurs can utilise in daily work. The set B connects the elementary ideas of the set A with entrepreneurial approach, and the set C provides guidance how the learnings can be applied in practise in start-ups. The programme consisting of lectures, seminars, workshops and jam sessions provides a framework for teaching design oriented thinking and prepares the ground for embedding of the approach in everyday practises of the start-up and would-be entrepreneurs.

The heterogeneity of the target audience is taken in to account in the programme: modular structure is flexible and can be adapted to the situation of an individual start-up company or individual person in process of initiating his or her own business. The plan and implementation of the project is based on the expertise and resources of the four parties involved in the project consortium. The training and coaching programme has been piloted and tested with the local community involved in start-up and creative industry activities in Innsbruck.

The participants' profiles and attendance in the training events

Engagement in early phase start-up activity is the primary common denominator for the start-up and would-be entrepreneurs participating in the doga training sessions. In other respects, diversity characterises the constituency: the participants differ in terms of age, educational and professional background, previous experience, as well as business sector and trade they already are or plan to be active.

In total 67 persons have participated in the 11 doga events organised in the course of the project. Almost half or 33 of them have been start-up and aspiring entrepreneurs. Further, slightly over half (55%) of the participating start-up and would-be entrepreneurs have been members of CAST pre-incubation (11) and incubation (7) phase start-up teams. One third of all the participants classified as start-up entrepreneurs have been students when attending the doga training events. Professionals presenting creative industries and consultants (i.e. start-up coaches of CAST and other institutions in Innsbruck) stand for the remaining group of participants.

We find that in light of the number of participants there have been variation in attendance between the individual doga events. In addition, the number of participants who have attended in more than one training session could be higher as close to one fourth (23%) of the all participants have attended in more than one event, usually in two or three different events. In comparison to the creative industry experts and the start-up coaches, the start-up and aspiring entrepreneurs have attended less frequently in two or more training sessions (18%, or 6 out of 33 in the category).

It is recommended that the doga project team carefully examines the reasons for variation in attendance and the rather low number of start-up and would be entrepreneurs who have attended in two or more doga events. The participant interviews imply that there is a positive link between perceived learning outcomes and frequency of participation – imparting and nurturing design close skills, understanding, and attitude to the persons involved in start-up activities is an evolutionary process which takes place and is reinforced through attendance in a number of training events.

Participants' expectations

There are marked differences between the participants in terms of expectations they have towards the content of training sessions. Many of those being in early phase of their entrepreneurial journey do not have strong presumptions and are receptive to design oriented approach imparted in the training sessions. Also experts from creative industries are well-disposed to anticipate and understand the design oriented approach imparted in the training events. The start-up coaches and the more experienced entrepreneurs form a distinct group whose expectations call for a closer look in planning of the future doga training events. This group of participants appears to have more precise expectations to the training in comparison to start-up and would-be entrepreneurs or creative industry professionals.

We observe that communication of the content and aims of the doga programme to the target audience is an issue which likely relates closely to differing expectations the participants have had towards the training sessions particularly in the early stage of the pilot project. The question is about how to communicate clearly enough the complex ideas behind the design oriented doga approach to the people. The doga approach – which cornerstones are in iterative learning-by-doing, experimenting and using creatively means available – is not easy to convey to potential participants in words only. The project team has been aware of the challenge and used different media to communicate the key message and offering of the doga approach to the start-up and aspiring entrepreneurs; information about the upcoming training events have been circulated through face to face contacts, newsletters and local internet sites (such as createtirol.at) to CAST start-up teams, people who have participated in other training modules organised by CAST, students at MCI and community of

creative industry people in Tyrol. The project team has also set up a dedicated website (thinkdesign.at) to disseminate information of overall framework of the doga programme. Regarding the future outlooks of the doga training programme, there is need to continue these efforts and look for ways to improve further the communication.

Training sessions as a platform for experiencing design thinking

The project team should be commended for organisation of the training sessions, which are both intense and interactive. It seems that the organisers have managed to create a micro cosmos which is captivating and offers an opportunity to experience design thinking approach in practice. One of the perceived strengths of the doga training methods is that they enable cross-pollination, mutual learning by bringing together participants from different educational and professional backgrounds and different stages of start-up development. The composition of the group and interactive methods help the participants to see things from new perspectives.

Our qualitative evidence indicates that the project team and the facilitators have managed to use the accumulating experience of the training sessions to refine and improve further the way the events are carried out over the course of the project lifecycle. In early phase some criticism was caused by lack of information about the precise aims and the wider framework of doga training modules. Nowadays, the doga framework, curriculum, and aims of the project are introduced systematically in the beginning of each training session. Consequently, the participants who have participated in the events in later phase seem to be more acquainted with the piloting nature of the project which is developed further on the basis of feedback. This finding underlines the importance of managing the expectations in relation to the content of individual training events and the doga programme in general.

A question calling for the attention of the project team relates to the number of participants, which has varied from event to event and can harm opportunity for interactive learning if the attendance is very low. As pointed out above, interaction with the other participants importantly contribute to experience and learning in doga events. Related to this there is need to consider (optimal) timing of doga events. The training sessions organised during the pilot project have taken place with irregular intervals in Innsbruck over almost a two year period. This makes sense in the context of the pilot project when the approach is developed and tested. However, regarding the future outlook of the doga programme, it would be worthwhile to pay attention to scheduling of the training events to have greatest effect and underline the inter-connectedness of the modules. It would pay off the consider what is the most appropriate way for implementation of the doga curriculum in way which creates favourable framework conditions for development of mind-set sympathetic to design oriented approach in business. Should the training events to be organised over a long period of time or would it pay off to implement the doga curriculum time wise within a shorter period of time comparable for example to the CAST Winter School type of arrangement?

Outcomes

It is safe to expect that the ultimate impacts of the pilot project should show in behavioural changes what comes to entrepreneurial thinking and acting among the participating start-up and would-be entrepreneurs. However at this stage when project is not yet concluded, there are no readily available indicators to detect behavioural effects and additionality of the doga project directly. Therefore, we addressed the question about impacts indirectly by analysing indications of learning outcomes and impacts in light of the interview and survey data collected. The focus has been on perceived added value of the doga modules for the participants and learnings they have taken with them from the training sessions.

It turns out that the participants' views of the learning outcomes vary depending on how novel the design oriented approach and accompanied methods have been for them. We notice that many of the early stage start-up and aspiring entrepreneurs have found the

content of the doga events intriguing and useful. The training sessions have been a good source of new insights and perspectives, while also helped them to become familiar with design oriented approach and the ways it can be applied in the start-up environment. Simultaneously, participation in the doga events has offered the participants a good occasion to learn to cooperate and communicate with people from different educational and professional backgrounds.

As noted above, our qualitative interview data points to a link between perceived learning outcomes and frequency of participation in the doga events. The participants who have attended in several events are generally satisfied with doga scheme and find the content of sessions rewarding and useful. The attitude of this group of participants towards design oriented approach demonstrates that the doga training approach has a good opportunity to have behavioural impacts among the early stage start-up and would-be entrepreneurs.

Regarding sustainability of the results, it is encouraging that the approaches and methods imparted to the participants are perceived widely applicable. This implies that the training sessions are providing an essential understanding of the design oriented approach and methods for which the participants recognise different uses in business activities.

From the perspective of start-up coaching, the design oriented approach and associated methods and tools appear as useful addition to existing ‘toolbox’ to cover dimensions which are less well touched upon in coaching of the start-up entrepreneurs. We find that there is some inherent tension between the approaches used in the start-up coaching and doga approach, though. The approach adopted in start-up coaching is very much individually focused and the services are tailored emphasising unique needs of each entrepreneur or start-up team. In contrast, the doga approach is more holistic – a unique element of the doga is the wider framework and set of interlinked modules which differentiates it from individual workshops. Start-up entrepreneurs are guided gradually over several training sessions into thinking models, methods and approaches used by designers. We feel that there are, however, ways to solve the seeming tension. In principle, the doga modules can be understood to form a self-containing buffet table, from which the participants can pick-up the modules which match to their needs – this has been largely the approach during the pilot project. Alternatively, it would be worth to consider to use the doga framework and modules as a starting point for tailoring and combining cohesive ‘doga mini courses’ which are delivered for a given group of participants presenting all the three target groups of doga in a predefined time span. In any case, when considering options to this, a care should be taken not to lose from sight importance of retaining flexibility which has characterised participation in doga events during the pilot project.

Conclusions

The project has been successful in achieving its main goal of imparting the design oriented mind-set, perspectives and methods to the participating early stage start-up and aspiring entrepreneurs. The project team has shown that it is possible contribute to awareness among the start-up and aspiring entrepreneurs regarding benefits of design oriented approach for business. Participation in the doga events has promoted a change in outlook to the point that the individuals engaged in start-up activity have become more aware of usefulness of design thinking for their business activities.

Particularly experience of people who have participated in two or more doga events suggests that the project has been able to foster a design oriented mind-set among the participants – notwithstanding that not all of the participants have been equally content with learning outcomes. There is also indication that the pilot project’s aim to have more sustainable, behavioural impacts on level of mind-sets among the early stage start-up entrepreneurs is achievable.

Scaling up and dissemination of the doga approach and the results requires that the project team considers carefully critical questions discovered during the pilot project implementation. The main challenges identified in the evaluation concern following questions: 1) how to communicate the message and aims of the doga programme to the different target groups with somewhat different expectations, 2) what are the means with which the programme can attract and encourage the start-up entrepreneurs to participate not only once but in a number of doga events, and 3) in which way compatibility of the doga training programme and start-up coaching as practiced at CAST and other incubators in Austria can be strengthened and enhanced in future.

Introduction

This report presents the results of the evaluation of the doga – Designorientierte Gründungsarbeit project. The project has been implemented by a project consortium consisting of CAST Gründungzentrum GmbH in Innsbruck, GP designpartners GmbH, Marcus Ambrosch (effectuation expert) and MCI – Management Center Innsbruck. The project has been funded by the Austria Wirtschaftsservice GmbH (aws) through impulse LEAD programme focusing on forward-looking projects that can serve as models while simultaneously supporting networking, increased professionalism and visibility of the creative economy. The project was originally scheduled to start in September 2014 and to be accomplished by 30th September 2015. Because of personnel changes in the core doga team composition both at CAST and at MCI prior to the launch of the project, the start and implementation of the project was delayed compared to the original plan. Therefore an extension was applied and granted by Austria Wirtschaftsservice until the end of March 2016.

The doga project has had an ambitious objective. The project has aimed at developing a model which advances and fosters an attitude sympathetic to design thinking among new entrepreneurs, would-be-entrepreneurs and coaches working with start-up firms. The project has strived for embedding of design as a strategic instrument for start-up companies and persons in initiation phase of entrepreneurship by organising a series of workshops and other type events such as highly intensive jam sessions in which participants are immersed in design thinking through a learning process based on action learning. The approach is characterised by learning-by-doing, exploring and experiencing, expert knowledge, reflecting and probing, solving of problems and learning from it – all of which are understood to contribute to learners' mind-set. The workshops have been facilitated by the two design and management professionals who have been closely involved in development of the new approach intertwining design oriented thinking and effectuation with start-up coaching and advisory services.

A central question in evaluation concerns how successful the project has been in promotion of change along continuum of behaviour: has the project increased the participants' awareness of design close approaches, readiness to use these types of approaches and contributed to development of accompanied capabilities leading, further, to attitudinal changes and eventually action? These kind of behavioural impacts require usually time to emerge and therefore some of them may not yet be identifiable at this stage. More detailed evaluation questions are as follows:

1. How successful the project has been in development of concepts, methods and modules which support immersion of start-up entrepreneurs and would-be-entrepreneurs into design-close thinking and effectuation approach? Are the modules implemented in the course of the project relevant to convey the main message of it (i.e. design as a strategic resource for start-up firms)?

2. Has the project managed to sensitize and convince the participating start-up coaches, who work day-to-day basis with start-up companies, about benefits of design-close approaches for new and would-be entrepreneurs? Has the project offered practical 'tools' and 'mind-sets' which start-up coaches can use to translate and disseminate design close approaches to new and would-be entrepreneurs?

3. What are the immediate outputs and are there available indications of longer term impacts of the project activities? What is scalability of the pilot project outcomes? How the results can be scaled up and utilised in future in Tyrol and across Austria?

1. Data, methods and framework used in the evaluation

Data and data collection methods

The evaluation of the doga project relies on variety of data gathered during the evaluation process starting in February 2015 and ending in February 2016. Existing project material including official documents such as the project plan and descriptions of individual doga modules were used to create a preliminary understanding of the project and context in which it has been implemented. In the latter phase, the evaluator has had also opportunity to familiarise with the feedback collected from the participants of the doga events during the implementation of the project.

Semi-structured interviews, in total 21, were carried out with the project team members, stakeholders, and people presenting target group of the project including start-up entrepreneurs, would-be-entrepreneurs, creative industry professionals and start-up coaches of CAST (Appendix 1 List of persons interviewed). The interviews were done in English and about half of them took place in person in Innsbruck and remaining ones were conducted by using Skype, a web phone application programme. In the early phase in February 2015 were interviewed the doga project team members and a few key stakeholders in Innsbruck. The aim of these interviews was to collect information about the goals of the project as well as of the local environment and start-up scene in Innsbruck and Tyrol. Seven people in total were interviewed in this phase. Start-up entrepreneurs and would-be-entrepreneurs who have been participating in doga events were interviewed during longer period of time in order to take into account the developmental nature of doga project; content and structure of the doga programme have been created, tested and further developed by the team along the project timeline. Therefore, it was deemed important to collect participants' experience and perceptions at different points of time.

Table 1. Interviews per group

Group of interviewees	Number of interviews
Project team members	5
Stakeholders	2
Participants	15
Interviews in total	21

A survey was developed in order to complement the interview material.[1] The survey was sent to a) the early stage start-up and would-be entrepreneurs participating in training modules of the doga project in Innsbruck, and b) a comparison group consisting of start-up teams which had not participated in doga events. The project team members from the CAST, which is one of the Austrian AplusB Centres, contacted in advance the AplusB centres' network to find out opportunity to distribute the survey for their clientele as well. In addition to CAST, four AplusB Centres, locating in Carinthia, Styria, Lower Austria and Vienna respectively, confirmed they availability to participate in implementation of the survey.

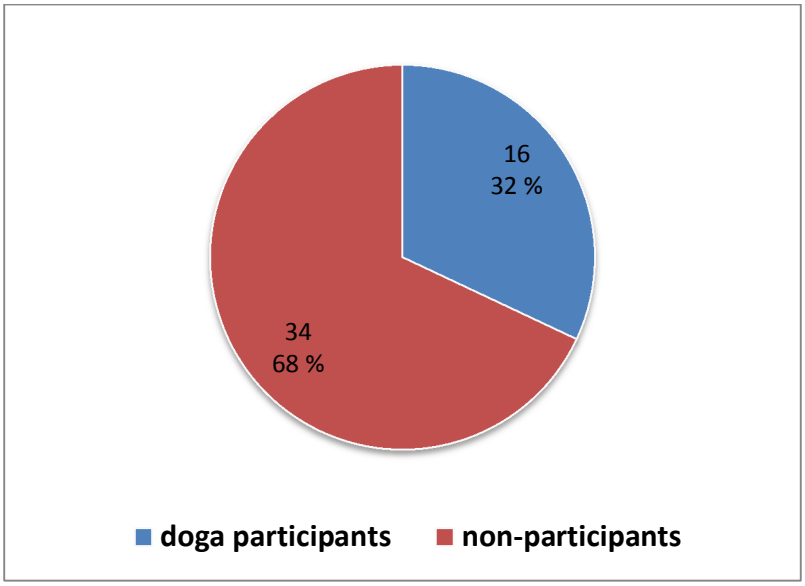
The questionnaire was conducted by using Digium Enterprise online survey tool of Questback. Invitations and an open link to the web questionnaire was sent 1) by CAST to all the start-up and aspiring entrepreneurs who had participated in the doga events in Innsbruck, and 2) by CAST and the four other AplusB Centres to representatives of their start-up teams with no connection to the doga project. In addition to the original invitation sent in the beginning of June 2015, an invitation was sent anew 3 times between July and December to those start-up entrepreneurs and would-be-entrepreneurs who had participated in doga

[1] The questionnaire was prepared jointly by Juha Oksanen and Anja Niedworok, a researcher of MCI and part of the doga project team in 2014-2015.

events in Innsbruck. Due to the used method in contacting potential survey respondents there is not available exact number of people to whom the invitation was sent – this is admittedly a shortcoming as we cannot define the size of the survey sample nor the response rate in total. However, the response rate can be counted for the sub-sample of the early stage start-up entrepreneurs who have participated in the doga events as CAST has the required information about number of attendees. Almost half, 16 out of 33 (49%), of the start-up and would be entrepreneurs who had attended in the doga sessions responded to the survey.

The survey resulted in 50 completed on-line questionnaires of which 16 (32%) were start-up and would-be entrepreneurs who had participated in doga events and remaining two-thirds start-up team representatives of the 5 AplusB Centres without first-hand experience of doga project (Fig. 1 below). Based on the answers to the question on physical location of start-up team/company, over half of the firms belonging to the comparison group are from Tyrol.

Figure 1. Survey responses



The collected data is primarily qualitative. The survey results are used in the evaluation descriptively to provide background information of the start-up and aspiring entrepreneurs and additional insights, often still emerging, impacts of the doga project.

Evaluation framework

A general evaluation framework applied in the evaluation of the doga project is presented in the Table 1 below. Due to nature of the doga project, the focus in evaluation has been on the two first phases: development as well as piloting & demonstration phases during which the programme for conveying the design oriented approach to start-up entrepreneurs and coaches has been created, continuously developed and piloted. The evaluation framework takes into account also the project's farther reaching aim to contribute to development and survival of start-up firms across Austria via introduction of design as a strategic resource available for start-up entrepreneurs. These aspects are however outside of the scope of the evaluation as the focus here is on the project which has developed and piloted the new approach in Innsbruck. Against the background of the evaluation framework it is presumable that the doga project's impacts in development and piloting phases relate mainly to capabilities and intangibles developing among the participants.

Table 2. Evaluation framework

Inputs →	Activity →	Output →	Impacts
Implementation of doga project 2014-2016	Development phase ↓	A design oriented training model consisting of concepts, methods and modules which supports creativity of new and would-be entrepreneurs in strategic management of start-up firms.	Better understanding of design as a strategic resource for start-up firms. Capabilities introduce, integrate and use design close and effectuation methods in start-up consultancy and coaching.
	Piloting and demonstration phase ↓	Verifying functioning of the developed doga model for entrepreneurship & start-up firms and support. • Adoption and use of doga 'tools' by the participants. • Dissemination of knowledge about doga approach through various channels (media coverage & activity etc.)	Impacts on level of mind-set among the participants of the pilot project: • Diffusion of design oriented entrepreneurial mind-set. • Readiness to apply design-oriented approaches. Networking impacts (particularly between start-up entrepreneurs/would-be-entrepreneurs and designers as well as start-up coaches.
Ex-post actions after the completion of the project both locally in Tyrol and nationally in Austria	Introduction in use ↓	• doga learnings & experiences are used and embedded in new start-up initiatives in Tyrol. • Introduction of new model developed in the project to regular use (e.g. by CAST, MCI). • Delivery of doga based training and service modules in start-up consultation/coaching.	Local impacts among entrepreneurs, would-be-entrepreneurs and actors supporting start-up activities: • Behavioural and attitudinal change: readiness to apply design-close approaches. • Start-up coaches recognize and are able to apply design-close approaches when working with start-up companies. • Quality and efficiency of start-up services.
	Diffusion	Introduction of a doga stimulated model to entrepreneurship training across Austria (e.g. AplusB Zentren, Start-up services of local Wirschaftkammers, Impulszentren and AWS).	Wider societal and economic impacts • attitude to design (thinking) and its applicability to entrepreneurial activity. • business impacts (e.g. increased survival of start-up firms).

2. The doga project and background of the participants

This chapter introduces the doga project and provides an overview of the doga participants' background and involvement in start-up activity. In the following, an overview of the doga project and its goals is given. Then we will have a closer look on the doga participants, their participation patterns (i.e. frequency of participation) in the project events and characteristics of start-up activity they are involved. The dimensions covered include the participants' age, sex, educational and professional background as well as status, size and sector of start-up activities and importance of different types of competencies to the responding start-ups.

The doga project and its goals - overview

The principal goal of the doga project was to promote understanding of design as an important element of entrepreneurial strategies. The concept of 'design' in this framework refers to a design oriented mind-set, approach which shapes entrepreneurial thinking and acting. In essence it is a customer oriented attitude emphasising emphatic understanding of the needs of the customer as a critical part in innovation and strategic business development. According to this view, design oriented approach as a vital part of entrepreneurial behaviour will eventually strengthen the competitive advantage of the firms.

Regarding the target group, it was assumed that persons in early phase of entrepreneurship – in contrast to seasoned business managers and entrepreneurs – are open to new ideas. Experienced entrepreneurs and established companies tend to have fixed attitudes about how to succeed in business and, consequently, it would be difficult to convince them about the value of design oriented thinking for the business. Against this background, the project aims to contribute to development of attitude receptive for design thinking among the start-up and would-be entrepreneurs. The project helps the participating early stage entrepreneurs to recognise and use insights originating from design and to utilise designers' problem solving skills and work practises to develop and advance their business activities. The project does not aim to transform the entrepreneurs to designers but instead to help them to become familiar with a design oriented attitude and get an understanding of the added value of design in business more generally. Insights from effectuation research are used to bridge design close thinking and new business creation. Effectuation refers to ways in which entrepreneurs cope and develop new products and markets in complex, uncertain, and constantly changing conditions by starting with the means readily available.

The project has three explicitly defined target groups: 1) persons engaged in start-up activity, 2) designers and other creative industry professionals, and 3) start-up coaches from organisations supporting development of new enterprises. Mixing of people with different backgrounds and in different stages of start-up development is a dimension which the project team has taken intentionally into account when developing the doga approach.

"To make sure that the start-up entrepreneurs can experience design thinking, the mind-set of a designer, there is needed also some designers to participate in workshops and especially in doga jams." (A project team member)

For each of these groups there are somewhat different but related goals. The persons in early stage of start-up process are immersed in design and design oriented thinking through new seminar and workshop formats while also imparted in existing know-how about firm creation and management tools available. The participating designers and other creative industry professionals are familiarised with business creation models. In this way the project aims to improve communication and interaction between the designers and the founders of start-up companies. For start-up coaches the design oriented approach is seen to offer important new perspectives and tools which can contribute to coaching of start-up entrepreneurs.

The plan and implementation of the project is based on the expertise and resources of the four parties involved in the project consortium. GP designpartners GmbH brings in design expertise, Marcus Ambrosch is an expert in management and effectuation, the Management Center Innsbruck – MCI (university of applied sciences) provides access to university students who are in process of founding a start-up, and the CAST Centre for Academic Spin-offs with its start-up teams and start-up coaches forms an ideal environment to pilot the doga approach.

The project team has not had a ready-made blueprint available how to teach design oriented thinking to the start-up people and how to prepare the ground for embedding of a design oriented approach in everyday practises of the start-up entrepreneurs. Thus, at the beginning of the project the two team members, a designer and an effectuation specialist, set out to develop a module based training scheme consisting of lectures, seminars, workshops and jam sessions. The first version of the module structure was drafted in parallel with the project plan preparation and it has been developed further since the launch of the project. The team has used the gathered experience and feedback from the implemented training sessions to elaborate and fine-tune the content of individual modules and structure of the whole doga framework. As a result, a programme structure consisting of three interlinked sets of modules has been established in the course of the project (see more detailed description of the set of modules in German at http://thinkdesign.at/):

a) Understanding design thinking – the set A of modules introduces the designer's way of thinking and teaches and disseminates basic skills that the start-up and would-be entrepreneurs can utilise in their daily work.

b) Integrating design thinking – the set B connects the elementary ideas of set A with entrepreneurial approach: the classical entrepreneurial way of thinking is related with the designer's way of thinking.

c) Utilising design thinking – the set C sets out to present and provide guidance from the doga training to practical application of learnings.

The finished programme structure consists of 16 separate but interlinked modules. The module based training scheme is flexible and can be adapted to the situation of an individual start-up company or individual person in process of initiating his or her own business. Opportunity to combine the training modules flexibly is important because of the characteristics of the target group; the start-up teams and people in process of developing their business ideas are a highly heterogeneous audience depending on the phase they are in, resources available to them, background and experience of the team members and so forth. Accordingly, the modules can be combined in a bottom-up fashion to construct a framework which provides the individual doga participants a setting in which they can experience the significance of design, learn design methodologies and competencies. The framework helps the participants to advance their entrepreneurial activities, to become aware of design thinking as a strategic tool, and learn how to integrate design orientation into company processes.

In addition to seminars, workshops and jam sessions the project plan outlines a few supplementary instruments to give support for imparting of the design thinking to the target group during the project: a design oriented checklist backing the start-up entrepreneurs, DOGA diary as a tool for documenting tasks and design-oriented and entrepreneurial experiences of the participating start-up entrepreneurs, and a workshop for training of doga facilitators who are able to carry out doga training sessions and disseminate further the ideas of design oriented thinking in Tyrol and Austria.

Background and profile of the doga participants

In total 67 persons have participated in the 11 doga events organised by the end of March 2016. Almost half or 33 of the participants have been start-up and aspiring entrepreneurs interested in to learn about the inputs design and design thinking can offer for development of early stage start-up business. Slightly over half (55%) of the participating start-up and would-be entrepreneurs have been members of CAST pre-incubation (11) and incubation (7) phase start-up teams. One third of all the participants classified as start-up entrepreneurs have been students when attending the doga events. Professionals presenting creative industries and consultants (i.e. start-up coaches of CAST and other institutions in Innsbruck) stand for most of the remaining group of doga participants as can be seen in the table 3 below.

Close to one fourth (23%) of the all participants have attended in more than one event, typically in two or three different events, in one case as many as nine out of 11 possible events. Among the start-up entrepreneurs and creative industry professionals there have been equal number of people who have participated in more than one doga event; in both groups 6 persons have two or more participations. Three out of nine consultants have participated more than one event.

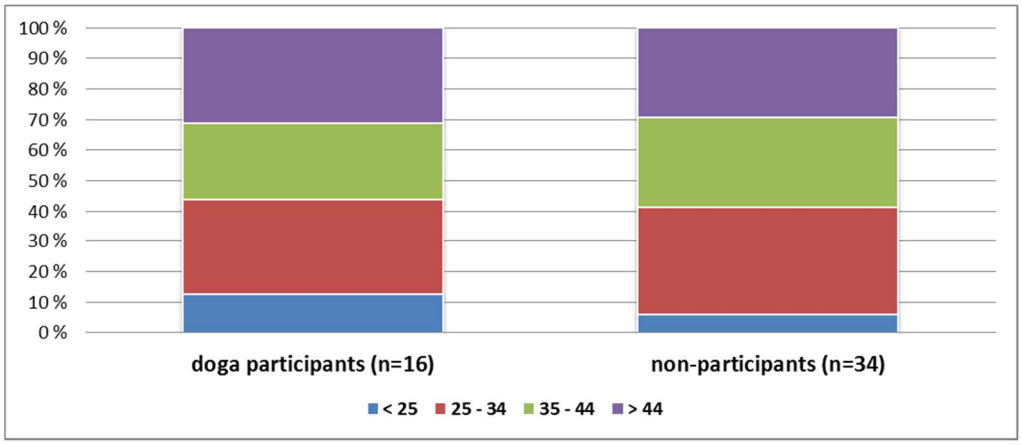
Table 3. Participants' background

Participants' background	Number of participants
Start-up entrepreneurs/would be entrepreneurs	33
Creative industry professionals	22
Consultants	9
Other	3
Total	67

The age distribution varies considerably among the start-up and aspiring entrepreneurs participating in the doga events as can be seen in Figure 2. According to the survey, around 45 percent of the participating entrepreneurs belong to the category of '34 or below' and remaining 55 percent to '35 or more'. There is no marked difference in the age distribution between the survey respondents who have or have not participated in the doga events except that the share of the youngest age cohort below 25 is smaller and the share of 25-34 years of old larger among the non-participants. Regarding the ratio between men and women, the attendance statistics show that men account for two thirds of the doga participants. The difference in participation is most pronounced among the start-up and would-be entrepreneurs as only 21 percent of them have been women.[2] In comparison, among the coaches and creative industry professionals around equal number of men and women have participated in the doga events.

[2] The difference is even more striking among the start-up and would-be entrepreneurs (including both doga participants and non-participants) who responded to the survey; 85 percent of them are men and 15 percent women. In comparison, the ratio between men and women respondents was 72%-28% in the Szenemonitor Tirol survey which was accomplished in May 2015 to map out the start-up scene in Tyrol.

Figure 2. Age distribution of the survey respondents.



Obviously, engagement in early phase entrepreneurial start-up activity is the primary common denominator for the start-up and would-be entrepreneurs participating in the doga events organised during the doga project. In other respects, it is diversity which characterises the constituency of the doga sessions. The participants differ in terms of age, educational and professional background, previous experience, and business sector of their start-up. The educational and professional background of the participants ranges from students who are doing their Bachelor or Master studies at the MCI to persons finalising PhD studies at the University of Innsbruck or the Medical University of Innsbruck, further to people who have a several years' experience of working life as programmers, consultants, marketing professionals and more. Some of the participants have also prior experience of being involved in founding of a firm or running own business as a single person company.

Moreover, the start-up and would-be entrepreneurs who have participated in doga events differ from each other in relation to industry upon which they are focusing in business. This is well illustrated by the survey responses to the question about industry the start-up belongs to as we can see from Figure 3 below. Start-up activities of the doga participants are not concentrating in one or two industries but cover a wide number of sectors and trades from innovative services and creative industries to IT. It is noteworthy that single most often mentioned industry category by the doga participants is the 'Other' which according to the open answers includes a variety of activities, e.g. software supported financial services, health, fitness & sports services, furniture, and social entrepreneurship. In contrast, survey respondents who have not engaged with doga activities mention less often creative industries and 'Other' category and more often innovative services, IT and life sciences.

Figure 3. Business sector of start-up – doga participants (multiple answers possible)

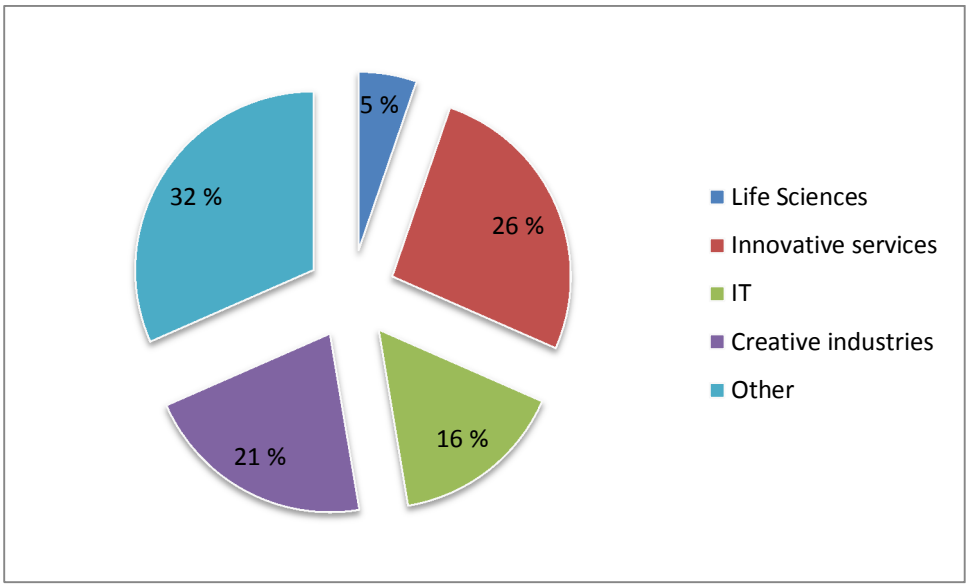
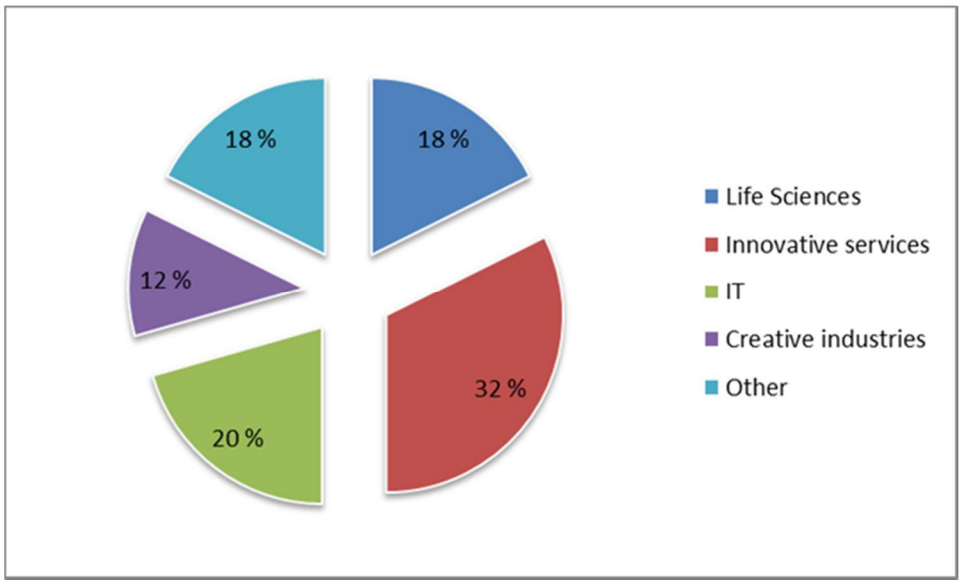


Figure 4. Business sector of start-up – non-participants (multiple answers possible)



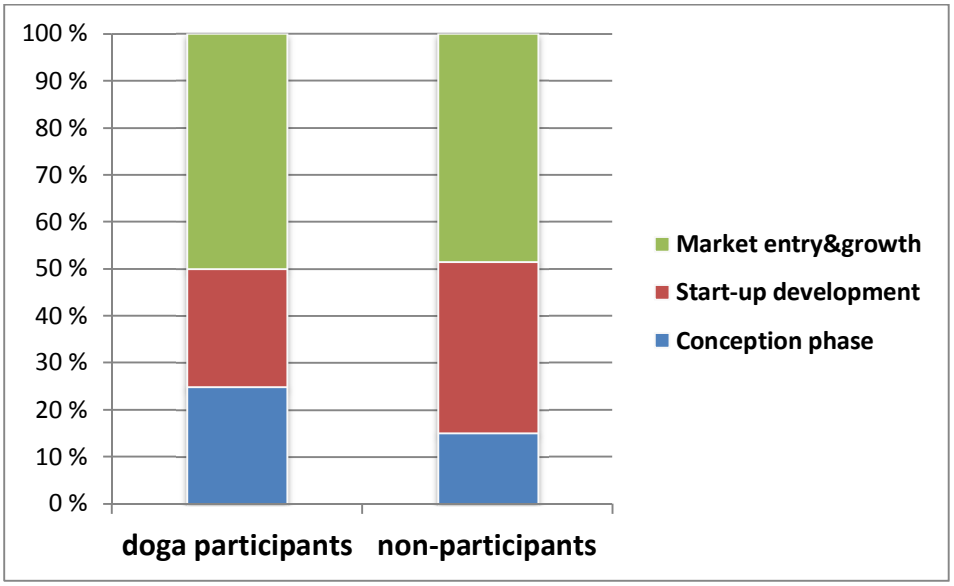
Stage and size of the start-up activities

The start-up entrepreneurs taking part in the doga training are in different stages in entrepreneurial activity which is understood here as a new venture creation. As shown in Figure 5 equal share (25% each) of the doga participants who responded to the survey assess that they are either in conception or in start-up development phases preceding the actual market entry. In conception phase persons with a business idea are contemplating to start a business and engage in activities such as entrepreneurship training which advance the goal, whereas those in start-up development phase are nascent entrepreneurs involved in setting up a business.[3] Another half of the doga participants are in market entry and

[3] The periodisation of the entrepreneurial process in the survey corresponds broadly to stages Reynolds and White (1997) and Reynolds (2000) identified in new venture creation process starting from conception and gestation phases, followed up by infancy and adolescence. Conception and gestation refer to the stage preceding founding and involving various activities, such as opportunity recognition, development of business idea, search for financing and going through the official procedures to found a company.

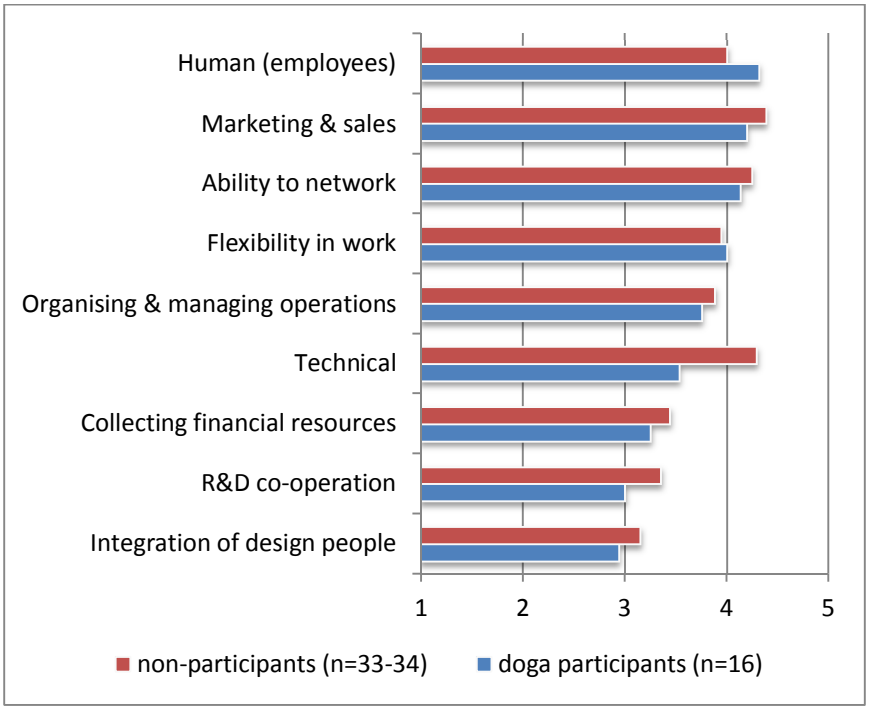
growth phase. In contrast to the doga participants, smaller share of the non-participant respondents consider themselves to be in conception and larger share in start-up development phase.

Figure 5. Current status of start-up (n=49)



The nascent stage of start-up activity among the doga participants becomes even more evident by having a look at Figure 6 which represents the size distribution of start-ups measured as number of employees. Forty four percent of the doga participants responding to the survey have not yet formally founded a company. In addition, 38 percent are classified as single person companies (EPU, Ein-Personen-Unternehmen in German). Slightly less than one fifth of the doga participants' start-ups employ 2 to 8 employees. In comparison, less than half of the responding non-participants have either not yet founded the company or classify themselves as a single person enterprise.

Figure 7. Importance of the competencies to your start-up/start-up team. (1=Not at all important 5=Extremely important)



Summary

To conclude, the background information on the participants shows that the events organised by the doga project team have succeeded to cater for a diverse early stage start-up audience interested in to learn about how design thinking and effectuation can be used to advance entrepreneurial activity. Almost half of the participating start-ups are in conception or gestation phase meaning that they are working on their business ideas and plans and have not yet founded a company.

One third of the doga participants engaged in start-up activities have been students, and large share of the start-ups participating in the doga programme are classified as single person companies. In addition to the early stage start-ups, the project has been able to attract attendees from the two other target groups, that is professionals from creative industries and start-up coaches.

Competences considered especially important for a start-up relate to personnel (co-workers and flexibility required at early stage) and the start-up's ability to reach outward (reaching the market and ability to network). The competences which have more to do with development of offering (R&D co-operation and integration of design expertise in the team) are considered moderately important.

It is worth paying attention to reasons for variation in attendance between the individual doga events and rather low number of participants who have participated in two or more doga events. While 25 percent of the all participants have attended in two or more events, the corresponding number for the start-up and would-be entrepreneurs is 18 percent, or 6 out of 33. This may relate to the situation in the midst of which the start-up entrepreneurs often find themselves in early stage – there are several things to care about and time is a scarce resource. Also, no all the modules necessarily match with the more immediate needs of the start-up entrepreneurs. In any case, the primary goal of the project, imparting and nurturing design close skills, understanding, and attitude to the persons involved in start-up activities would certainly benefit if the participants would take part not only in one but in a number of modules organised within the doga framework. We come back to this topic in the next chapter.

3. doga approach in practise – observations and assessment

In this chapter we look at implementation of the doga project more in detail. In the beginning we focus on newness of the content of doga approach to those who have taken part in the organised training events: what kind of expectations they have had towards the training session(s), which extent content and methods of doga has been new to them and if in relation to that there are differences between the three target groups of the project? The interview material of 15 participants is used to increase our understanding about the expectations and characteristics of the three target groups. Then the attention is turned to implementation of the actual doga events as experienced by the participating start-up and aspiring entrepreneurs, creative industry professionals and start-up coaches. By analysing the interview material we assess if the modular training framework constructed by the project team provides an environment in which the participants have opportunity to experience and learn the essential elements of design thinking and accompanied methods. The chapter is concluded by reviewing the learning outcomes and added value of the doga project for the participants by using interview and survey data collected in the course of the evaluation.

The participants' expectations and familiarity with design thinking

All the interviewed participants had learned about the forthcoming doga events through CAST either via direct invitation or newsletters. The CAST contact persons have circulated information about the upcoming modules actively through face to face contacts and local internet sites (such as createtirol.at) to CAST start-up teams, people who have participated in other trainings organised by CAST, students at MCI and community of creative industry people in Tyrol. The project team has also set up a dedicated website (thinkdesign.at) to disseminate information of overall framework of the doga programme for members of the target groups and other interested parties.

Details of the doga approach – which cornerstones are in learning iteratively by doing, experimenting and using creatively means available – are however not necessarily easy to convey to potential participants in words only. The project team has been acutely aware of the challenges there are in communicating the key message and offering of the doga approach to the start-up and aspiring entrepreneurs. To lower the communication threshold, the project team has for instance used the doga curriculum to provide a framework for each individual training session. Difficulties faced in the communication may reflect to some extent in different expectations the participants have had towards the workshops.

"There was a web site describing just a little bit about all the things but then you just know a little bit of it which doesn't mean that you know everything what is going on during the day." (An aspiring start-up entrepreneur)

Regardless of the prior expectations, it seems that the doga approach drawing from design thinking and effectuation have certainly been a novel approach to many participating early stage start-up and would-be entrepreneurs. Prior to the doga events, several of them have not had a clear idea about the design oriented approach, nor its applicability in development of business and start-up activity. For some, the concept of design thinking has been completely new. For others, there have been some cues to methods they had heard about as part of their studies, or when participating in workshops and business plan competitions tailored for aspiring start-up entrepreneurs in Innsbruck area. Few start-up and aspiring entrepreneurs had familiarised with idea of using insights from design in development of business before attending doga workshops and had quite precise expectations towards learning outcomes they were after.

"I wasn't familiar with the approach. And when I went to the workshop I didn't really know what to expect." (A start-up entrepreneur)

"That's really new thing for me. Actually I hadn't heard about it (design thinking) before." (A start-up entrepreneur)

"Not really, in the university the topic was very briefly discussed but it was not enough." (An aspiring start-up entrepreneur)

"I had read a book about using design approach in business and my expectation was to get some tools applicable for my start-up afterwards." (A start-up entrepreneur)

People whose background is in creative industries appear to catch the basic ideas of doga approach quickly but it does not necessarily mean that they would have been familiar with the topic in advance either. There is variation in their reasons for participation, as well. For example some of them have been interested in to benchmark and learn how the design close ideas are taught to people coming from other sectors and who have faint prior understanding of design.

"Familiarity with design thinking is a big question, not easy to answer." (A creative industry professional)

"To be honest I wanted to see how other people present the ideas I'm well into myself as I work closely with designers". (A creative industry professional)

In contrast to the early phase start-up entrepreneurs, the start-up coaches tend to have more developed preconceptions about the content of the doga sessions. The start-up coaches recognise common aspects between the design thinking and methods and approaches they have applied in their current or previous positions. Some of them have also experience of participating in design thinking workshops arranged by other organisations.

"Maybe not in a deep sense, but there are some aspects with which I have been familiar before… for example lean start-up methodology which have common features with the doga approach." (A start-up coach)

"Now when I think about it ideas of design thinking were applied in a company I used to work for, but it was not called like that". (A start-up coach)

"I mean, of course, business design, business creation has always been a topic (in my work) but without these tools. … I have been doing a lot of market research and it is always some way to get into the customer, to get customer insights but it is slightly different way than this (in doga)." (A start-up coach)

There are also other external factors which affect to expectations participants have towards the doga events. Currently growing interest in user centred methods and customer experience on the one hand and proliferation of design oriented approaches on the other contributes to dissemination of ideas and approaches close to design thinking. Due to various inputs – e.g. management literature, business plan competitions, and training courses available – ideas borrowing from design thinking and tools associated with it are presently becoming increasingly recognised and used in the local start-up community in Innsbruck and Tyrol. Therefore it is not surprising to find out that participants are not always sure in advance if the doga modules offer them something unique which they are not yet familiar with or if it turns to be something they already know.

"I heard of design thinking when I was reading a book of business model canvas some three years ago. (After) a product manager told me that I need to read the book. (…) Second time I heard about it when I got a newsletter from CAST telling about understanding your customers' workshop." (An aspiring start-up entrepreneur)

"You know, it is hard to separate those. I haven't used consciously the doga tools like canvas or stuff like that before. No, not really doga methodologies (…)." (A start-up coach)

Summary

The participants attending to the doga meetings differ quite markedly from each other in terms of pre-understanding and expectations they have towards the content of training sessions. We observe that many doga participants who are in the beginning of their entrepreneurial activity do not have clear nor strong preconceptions towards design thinking – their stance towards novel approaches indeed appears to be as open as supposed in the project plan. The start-up entrepreneurs participating in the doga events form although not a uniform group of people as some of them have a longer experience about entrepreneurship and quite clear expectations towards the doga events.

The participants from creative industries and design sphere are because of their educational and professional background often well-disposed to anticipate and understand the design oriented perspective imparted in the doga events. The start-up coaches appears to be aware of design thinking or, at least they can relate the doga experience and see connections between the doga approach and methods and techniques applied in coaching of start-up teams and more generally in planning and development of business activities.

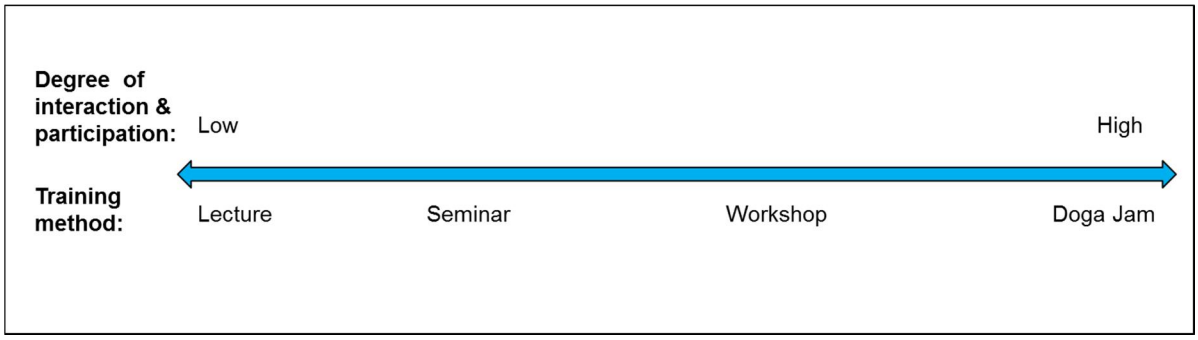
The start-up coaches together with the more experienced entrepreneurs form a distinct group which expectations requires additional attention in planning of the future doga training events. It seems that this group of participants have more precise expectations to the training in comparison to start-up and would-be entrepreneurs or creative industry professionals. Another issue concerns communication of the content and aims of the doga programme to members of the key target groups: the question is about how to communicate clearly the complex ideas behind the doga approach. Solving the question would likely to have an influence on the participants' expectations towards the doga sessions.

The training sessions – a micro cosmos of experiencing design thinking

At the beginning of the project, the primary task for the project team was to create a training scheme which allows conveying the value and applicability of design thinking and effectuation to those who are in early stage of their entrepreneurial process. As mentioned in the Chapter 2 above, this work resulted in a framework, a curriculum, consisting of three sets of modules which stepwise introduce to participants the ideas of design thinking and effectuation. Simultaneously are imparted practical skills and techniques which the participants can use in their daily work and strategic development of start-up activities.

The doga framework developed is a combination of training methods ranging from lectures to seminars, workshops and new type of doga jam sessions. The degree of interaction and involvement of participants in execution of a training event increases from lectures in which interaction between the participants is less pronounced to highly interactive and participatory jam sessions where participants can influence to direction of the event and have a chance to practice approaches and techniques in a 'micro cosmos' simulating the conditions under which start-up entrepreneurs are working and developing business (Figure 8).

Figure 8. doga training methods and degree of interaction and participation.



The project team has further developed, tested and evaluated the modules of the doga framework in order to take into account the context of start-up activity and the systemic dimension of design oriented approach - added value of doga scheme should be more than sum of its parts, e.g. the individual modules. In the setting of workshops and jam sessions the participants from the three target groups (early stage start-ups, designers and start-up coaches) work together and use design oriented methods to ideate, make, test and finalise a business or product idea. Length of the events varies commonly from half a day lectures to two and a half day jam sessions.

All the modules implemented within the doga framework have been facilitated by the designer and the effectuation-management professional of the project team. The facilitators' different but complementing backgrounds contribute to guidance during the events. In opinion of attendees who have experience of two or more doga events, involvement of the same experts helps creation of linkage between the training modules and contributes to a familiar atmosphere in sessions. Interviewees commented also favourable encouragement and advice they had got from the experts facilitating the event(s).

"I think that the two are a good team, they have different education. It is really interesting." (A start-up entrepreneur)

According to the participants' accounts most of the more interactive sessions have followed to large extent a similar type of approach: first the facilitator(s) gives an introduction to the topic of the event which is followed by practical examples and then doing.

"It was partly lecture, partly workshop and partly doing as we went often out to test the tools and methods in practice." (A creative industry professional)

As a process, the method applied in the doga sessions follows a designer's way of working which is "highly iterative, as it moves backwards and forwards through the phases; it is collaborative, involving users and other stakeholders in the framing of the problem, as well as in scoping the opportunity for design interventions; and it is interdisciplinary, involving technical, design, and business disciplines in each of the phases. It combines a very concrete approach to both observation and analysis in the discovery phase, a switch into the world of the imagination in the definition and design ideation phases, and then moves back into the material realm as concepts are prototyped and tested with users before implementation" (Gruber et al. 2015, 1).

Intensity and interaction – strengths of the doga events

Intensity and close interaction between the participants is one of the most often mentioned characteristics of doga events. The lengthier jam sessions can be highly intensive and rewarding if the topic is close to the participant's needs. Using the design oriented techniques together and in front of other attendees does not only provide a learning-by-doing experience but also opportunity to get feedback from others which is valuable for the

participating start-up entrepreneurs who are looking for inputs and fresh insights for their business or working on their business ideas.

"There was a lot of doing and then representing what were done (in a group) to others and what is going to be done next and then given feedback. This was interesting and engaging." (A start-up entrepreneur)

"The working method was very intensive, doing things together, experiencing, and many learnings came from other participants - everybody was experiencing practises differently, everybody had to tell their experiences with the empathy map." (An aspiring start-up entrepreneur)

The experience shows that the composition of group and the participants' different backgrounds give an additional thrust to interaction in the doga sessions while affecting to direction of a particular event. Mingling of people who differ from each other by age, work experience, expertise, and focus of business add an additional component to interaction between the participants. Everybody is able to bring in new insights from different perspectives based on their personal backgrounds. For instance, the creative industry professionals are well positioned to help other participants to get grasp of design thinking and contribute to small group work during the jam sessions. At the same time, working with early stage start-up entrepreneurs and coaches gives designers an opportunity to learn from other participants.

"There were 10 participants in total, each in different phases. Some people were already having their own business, and they wanted to learn how to understand their clients better. Some other had an idea but didn't know how to develop it into a business plan. (…)Everybody is helping everybody and in the end everybody knows a little bit more and realising a little bit more about client and those things." (An aspiring start-up entrepreneur)

"That was interesting because there were only two or three participants from creative industry and then a lot of people with technical and other backgrounds, and some students, too. (..) They behaved differently than people in design." (A creative industry professional)

"Business areas of the participants vary a lot from building of furniture to programming of apps or they offer services, or they are engaged in other broad range of industries. This is something I have been very happy about because it offers a chance to learn a lot (as others) have completely different views on things." (A start-up entrepreneur)

Group dynamics needs to be handled carefully in such an interactive situation as the doga training events. Despite of the differences in their backgrounds, it seems that the participants have something quite important in common enabling the interaction: people are open-minded and willing to discuss their ideas and learn from others during the doga sessions as pointed out by an aspiring start-up entrepreneur.

Critical issues and continuous development of training methods

Not all the participants have been fully satisfied with the experience of doga events, though. The approach applied in the doga sessions can appear too loose to those who have clear expectations about the learning outcomes they want to achieve by attending in an event. Further, the participatory and iterative methods used in doga sessions differ substantially about teaching methods some of the participants have used to – which consequently can show in difficulty to fully immerse in the cyclical process of prototyping, testing, analysing and refining ideas during practical exercises. On the other hand, the discussions and self-reflection on personal experiences has been experienced by many participants as helpful for recognising own preconceptions about customers and development of new products and services.

"There have been good things and bad things. The workshops have been very different from each other." (A start-up coach)

Discontent felt by some of the participants with the implementation of the doga sessions has a connection to developmental nature of the project. The project team has developed and piloted the doga training programme for the start-up and aspiring entrepreneurs in situ. Especially in early phase of the project the way the sessions were implemented caused some criticism concerning for example such practical issues as not having available a ready-made timetable for the forthcoming doga events. Another source of irritation in the early phase concerned the aims of the project and the wider framework of doga modules which were not explained nor contextualised clearly enough in all the events organised.

Since then, the facilitators have markedly refined and developed the way the doga events are carried out in the course of the project based on accumulating experience of earlier sessions. The wider doga framework, curriculum, and aims of the project are nowadays introduced systematically in the beginning of each training session. Consequently, the participants who have participated in the events in later phase seem to be more acquainted with the piloting nature of the project and understand that experience and feedback from each event are used to develop the doga approach further.

"The experience was not that good but they (the facilitators) of course learn from the experience what works what doesn't and how the workshops should be led which is one of the aims of the doga project too." (A start-up coach)

"That is very important (to give information enough beforehand) because then people are more involved if they know what it is all about. (…) At the beginning they didn't explain what doga is about, more guidance would have been helpful. That has although improved since then (and) they are currently explaining the doga concept and what's coming next. (…) It is a new project and a pioneering work testing which works and which doesn't." (A start-up entrepreneur)

"The organisers have been improving how they visualise and transmit to people their ideas. They have improved how to get people the methods (feedback). The success of this is shown in most recent workshops in which there have been less people who don't understand the topic after the event." (An aspiring start-up entrepreneur)

"The facilitators explained what we are going to do during the day… and it is also depending on the participants. They found out what you want to learn and what you expect and then decided what can be covered. (…) Some parts were for everybody while people could also ask the facilitators to help them to understand own business better". (An aspiring start-up entrepreneur)

There are a few additional issues which concern implementation of the doga events. One of them concerns composition of group of people participating in the events. Having aspiring start-up entrepreneurs, creative industry professionals and start-up coaches to participate in same training sessions is generally welcomed and seen valuable considering mutual learning. A few of the interviewees had, however, somewhat diverging views what comes to the role and participation of start-up coaches in the doga events. A coach may feel awkward to participate in a common training session with start-up team members whom they otherwise are consulting and supporting in business development. On the other hand, for an early-stage entrepreneur situation may look quite opposite; while coaches bring in their experience and know-how it is not necessarily easy to them to set aside their professional role during a doga session. There is also some indication that coaches because of their daily schedules have difficulties to commit to participate fully in lengthy sessions.

Another concern relates to the number of participants which has varied from event to event and can affect negatively to interactive learning in an individual session if the attendance is

very low. As pointed out above, interaction with the other participants importantly contribute to experience and learning in doga events. A remaining issue is about (optimal) timing of doga events. The events organised during the pilot project have taken place with irregular intervals in Innsbruck over almost a two year period. This makes sense in the pilot project when the approach is developed and tested. However, regarding the future outlook of the doga programme, there is need to consider how to schedule the training events to have greatest effect and underline the inter-connectedness of the modules.

Summary

We find that the organisers have succeeded to create in the training sessions a learning environment, a micro cosmos which is captivating and offers to the participants an opportunity to experience design thinking approach in practise. The events organised have created a space for cross-pollination and mutual learning by bringing together participants with differing educational and professional backgrounds and in different stages of start-up development. This is clearly an aspect which the participants value in the doga events they have attended.

The methods applied in the doga events have been intense and interactive and many participants have found them intriguing and interesting. Methods-wise the doga sessions resemble a studio experience which usually starts with a relatively short presentation and discussion followed by hands-on work and doing after which there is some time for feedback from the other participants. Further, many of the interviewed participants were in opinion that practicing the design oriented techniques, interacting and getting feedback from others are in core of the doga experience.

The training methods emphasising participatory and iterative aspects may, however, look vague for some of the participants – particularly if the participants has more detailed expectations about what they want to learn when attending a doga event (e.g. in terms of tools or alike). This finding underlines the importance of managing the expectations in relation to the content of individual doga sessions and the doga programme in general.

Low number of participants in some training sessions and scheduling of the doga events are questions to consider carefully. There is perhaps no quick fix to this because of the limited hiring base of start-up entrepreneurs in Innsbruck and in Tyrol. Still, it is worth reviewing reasons for low attendance rate in certain events to find out how to encourage the attendance in future. Are there practical matters, such as timing of individual events or communication of training offering to the target groups, by which attractiveness of the training sessions can be increased further? Or if the content and methods used in the doga sessions can be made more appealing to potential participants? For instance, increasing use and focus on cases which are close to participants' own businesses during the training sessions may positively impact to attractiveness of the events among the start-up entrepreneurs. At least partly related to attendance is also question about timing of the doga events. What is the most appropriate way for implementation of the doga curriculum in way which creates favourable framework conditions for development of mind-set sympathetic to design oriented approach in business? Should the training events to be organised over a longer period of time or would it pay off to implement the doga curriculum within a shorter period of time comparable for example to the CAST Winter School type of arrangement?

Learning outcomes and additionality

Participation in the doga sessions can have different type of learning outcomes, some of which are more immediate than others. Considering the project's main aim – to contribute to development of a design oriented mind-set among the early stage start-up entrepreneurs – it is safe to expect that the ultimate impacts should show in behavioural changes what comes to entrepreneurial thinking and acting among the participating start-up and would-be entrepreneurs. These kinds of behavioural impacts, which usually require time to emerge,

can be considered as more enduring effects of the project. Additionality in this context refers to changes in behaviour of the participants which would not have taken place if the project had not been implemented. There are although no readily available indicators to detect behavioural effects and additionality of the doga project directly. Therefore we address the question about impacts indirectly by analysing indications of learning outcomes and impacts in light of the interview and survey data collected.[4] The focus here is on perceived added value of the doga modules for the participants and learnings they have taken with them from the training sessions. The anticipated learning outcomes can be derived from the primary goals of the project which include 1) increasing the knowledge base and enhancing awareness of design thinking, 2) developing the skills of participants to apply the design oriented methods in a start-up, and 3) integrating and embedding design orientation into entrepreneurial strategies within a start-up firm or team (cf. Hytti et al. 2010, 589).

Increasing awareness of design thinking and developing skills

Many of the interviewed participants found the content of the doga events interesting and useful for working on their own business idea. The participants have become aware of design oriented perspectives and have gained valuable experience of intense collaboration with people from diverse backgrounds. They have also learned to use and apply design oriented methods in ideation and development of new products.

According to a widely shared view, a specific strength of the design oriented approach and how it is applied in the doga sessions lies in its ability to detach, to take people out of their typical thinking models and help them see things from different perspectives.

"The facilitator showed me that I can use drawing more as a tool to communicate. (…) Before that I was only using drawing to create something artistic." (A start-up entrepreneur)

The methods covered and practised in the doga sessions have provided affirmative learning experiences for the participants. Many of the methods judged useful by the participants underline the central elements of the doga approach; using available means as a starting point, iterating and testing ideas with other team members and potential customers, and doing this all in rapid experimentation cycles (Brown 2008).

"I took with me from the workshop the core message of effectuation, not to think too much what to achieve but starting with means you have." (A creative industry professional)

"The effectuation module and prototyping were fascinating and useful. (…) The business model canvas was great, as well. I hadn't heard about it before. It is really great because you can create kind of compact business plan and it is quite flexible. (…) The empathy map was good to get the feeling of your target group and triggers ideas for doing marketing. (A start-up entrepreneur)

"Team is very important, for sure. But also the process how to test an idea is important. This is basically what we did there. We learned how to test an idea that we didn't even believe in, and then suddenly something new came out from the original idea and got some shape. This process of doing things you could replicate and apply to your own ideas. This is definitely something I want to do. That is an interesting way to evaluate idea, get people from street to give feedback then iterate the idea farther and see. Short period of time, two days would be enough." (An aspiring start-up entrepreneur)

[4] A rigorous analysis of behavioural impacts and additionality of a measure or a training scheme would require use of preferably several of following methods: pre-test post-test method, use of a control group, and a longitudinal setup allowing for taking into account effect of the time lag (cf. Rigby and Ramlogan 2013). The survey carried out as part of the evaluation provides us some glimpses into attitudes the doga participants and non-participants have towards start-up activities and practical usefulness of the design oriented approach in that context. To examine behavioural impacts of the doga project in-depth would however require a longitudinal study.

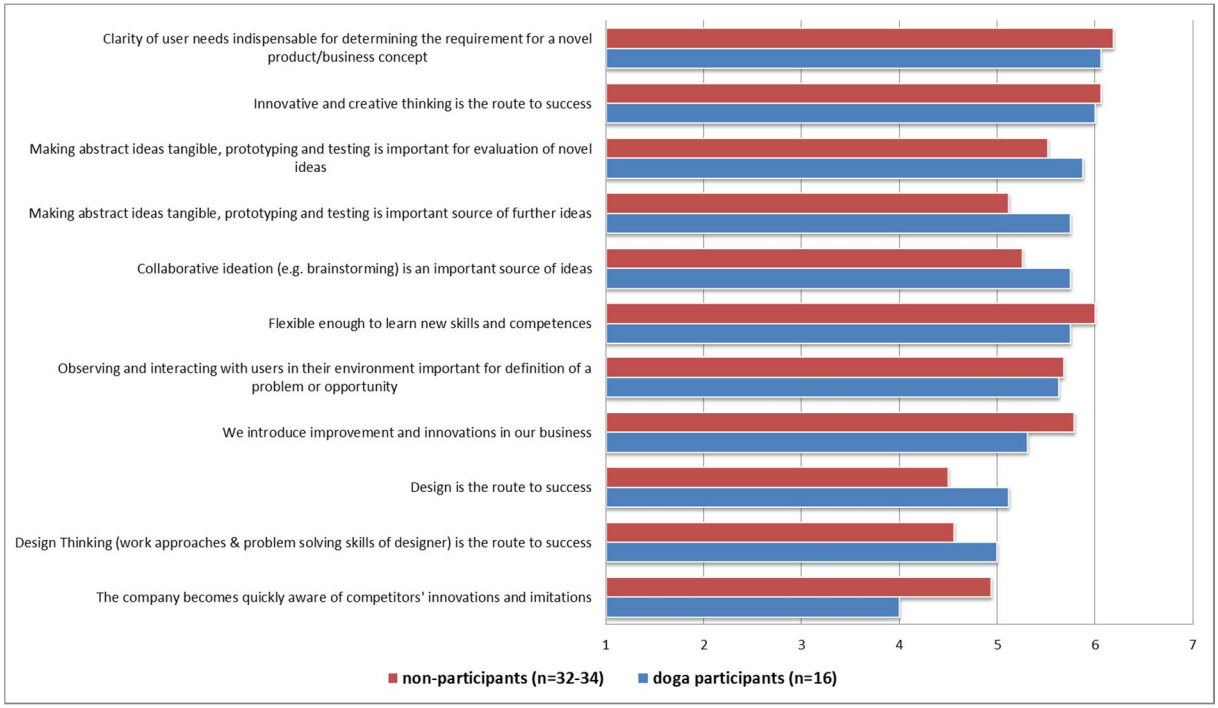
So far, the participants have applied the methods to varied extent depending on the phase they are in their entrepreneurial journey. For someone who is working on her business plan the input from doga is helpful to refocus thoughts and keep clients and their needs at the forefront. Another participant who is in prototyping phase and is close to finalise the product applies the learnings when preparing to negotiations with a funding agency. A third participant uses the new perspectives and inputs to solve a practical design related challenge in product development.

In general, the methods and perspectives imparted during the sessions are perceived widely applicable by those participants having a positive experience of the doga training. This suggests that the doga sessions are handing over necessary background understanding of design oriented approach and associated methods which a participant can then use in development of the start-up business.

"I have not yet applied them directly (the learnings from the doga events), but there will be an opportunity soon as the company is moving to the phase when the customers are contacted." (A start-up entrepreneur)

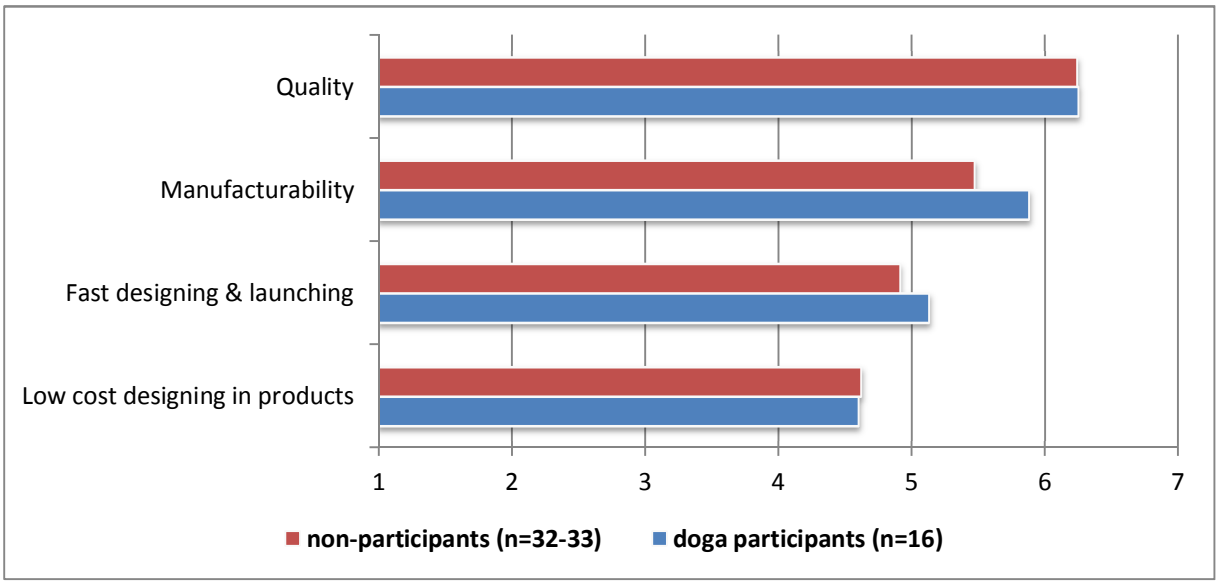
The survey results provide support for the above conclusion. In the figure 9 below is presented means of responses for the survey question, which measures the respondents' agreement with a set of statements about development of new offering in a start-up company. In comparison to the non-participants, the respondents who have participated in the doga events tend to agree more with the statements which highlight the key elements of design oriented approach. The doga participants consider prototyping and testing as important tools for making abstract ideas tangible, assess their viability and as a source of further ideas. The participants also value use of collaborative ideation, such as brainstorming techniques, important source of new ideas. All these methods are an integral part of an iterative customer-centred design process focused in in the doga sessions (cf. d.school bootcamp bootleg). Moreover, the doga participants agree more with the statements which explicitly probe respondents view about significance of design and design thinking for successful business endeavour.

Figure 9. Means of responses to the item "Below are presented some statements about development of novel offering in a start-up firm. Please, assess how much you agree or disagree with the statements" (Scale 1=Strongly disagree 7=Strongly agree)



The survey responses to the question concerning importance of certain design features (quality, manufacturability, low cost, fast designing and launch of new products) in development of new offering show that all the responding early stage start-up entrepreneurs in general deem the listed features at least slightly important (see the Figure 10). However, the doga participants give, on average, somewhat higher importance to manufacturability, fast designing and launching than the non-participants. This result provides additional support to observation that the doga events have increased the participants' awareness of design and effectuation oriented approach characterised by quick iteration, testing of ideas in practise and applying 'affordable loss' principle.

Figure 10. Means of responses to the question measuring experienced importance of given design close features for development of new offering in the respondent's start-up. (Scale 1=Not important 7=Very important).



Experience of the frequent participants implies that the project's ambitious aim to have sustainable impact on level of mind-sets among the early stage start-up entrepreneurs is achievable. Those participants who have attended in several doga events consider the content and approaches applied in the events very rewarding and helpful for generation and development of business ideas and activities. For them learning of design oriented approach is essentially a continuing evolutionary process which takes place and is reinforced through attendance in a number of doga events.

"In the events we learned how to live design thinking because that is the point - you need not just to know about it, you need to do it, you need to understand it and then it works. And you have to do it a lot of times until you really get a grip on the meaning of those techniques. It is more like an attitude what cannot be learned from books." (An aspiring start-up entrepreneur)

The quote above articulates exceptionally well how the learning and adoption of design oriented attitude or mind-set involves a lengthy inner process which the participant needs to live through. It also underlines the importance which doing and practising not only once but several times has for learning.

Actually as mentioned earlier, it has been one of the original insights behind the doga project that development of a design oriented attitude does not take place overnight, but requires time and reiteration from people involved in start-up activity. The module based training scheme has been developed exactly to this purpose; to introduce and immerse the participating start-up entrepreneurs, creative industry professionals and start-up coaches into methods and approaches used by designers gradually over successive doga events. For that

reason, the original idea was to pilot the doga curriculum with a more or less same group of start-up teams and entrepreneurs but the project has during its execution followed a more open approach in subscription to the training sessions. In effect, this means that there are number of participants who have attended one doga event only. The opportunity to enrol only in selected doga events is although appreciated by many of the participants as there is opportunity to attend in those very sessions which are perceived to match with individual needs and schedules at any given point in time.

"It is good that you can really choose which workshop to participate or if you missed one you can join another based on your needs." (An aspiring start-up entrepreneur)

"I was thinking to participate in a marshmallow super challenge session organised in Vienna, but then I thought I don't need more right now. I have had three, four, five of them (sessions until now) and now it is time to digest." (A start-up entrepreneur)

Notwithstanding the generally positive observations about learning outcomes of the doga projects, the perceived added value of the training sessions has not been equally obvious to all the participants. The reasons for the more critical views are varied but can be summed up in two. Firstly, the training sessions may have not met the expectations which a participant had had before the event. Secondly, and related with the previous reason, some of the participants feel that there has been little new in the content of the sessions compared to their prior knowledge.

Still, all the interviewed doga participants, including also the more critical ones, seem to be willing to attend doga sessions in future if the topic of the event is interesting to them. In fact, some of the participants with more critical views had considered to enrol in new doga events having better match with their needs. This suggests that the variety of doga modules offers a versatile selection of topics which are relevant to early stage start-up entrepreneurs, start-up coaches and creative industry professionals with different needs.

The creative industry professionals are a special case, as for them the content of most doga training sessions is usually not completely new – the participants who have background in design, architecture or planning have used to use similar type of conceptual perspectives when working with their customers. Still, they are well disposed towards the aims of the project and tend to pay attention to methods and ways used in implementation of the events. They also recognise the role they have as translators and facilitators when the participants test the design oriented methods in small groups during doing time of the more interactive doga sessions.

"It seemed to me that the methods used in the workshop were fairly close to psychological analysis, we (participants) were in a way analysing ourselves." (A creative industry professional)

"Handling of the time was interesting because you had the breaks in-between, but the breaks were really the moments when you did most of the creative work. (..) It was about working for an hour and having then two hours break. And during the breaks there were a lot dialogue and talking and going other and looking at what others do. These breaks were really intense with working." (A creative industry professional)

Learning to work with people from different backgrounds

The emphasis of the doga events on doing and using the design oriented methods together with other participants appears to have had significant learning effects for the participants. Many of the interviewed participants feel that they have learned to communicate better with people coming from diverse backgrounds. The methods applied in the sessions support a leaner, more open approach to communication: the participants are encouraged not to hide their ideas but share them with other people to get comments and advice. Moreover,

interaction with people who are in the same situation is a source of inspiration and motivation for early stage entrepreneurs. For start-up coaches participation in the doga sessions with start-up and would-be entrepreneurs and creative industry professionals has provided an opportunity to observe how the other participants are dealing with their own business ideas within the doga framework.

“Something happened and the people in the small group were able to work for the common target together. That would be important learning to take to everyday practise.” (An aspiring start-up entrepreneur)

“I get spark and fuel (from the doga sessions). The rational part I learn at the university, but creative, inspiring and emotional elements I learn from the doga. I think it is very inspiring because of the emotional context and interaction with other people who also think alike in the way that they want found something by their own. Getting together with those people gives your energy to do it yourself.” (An aspiring start-up entrepreneur)

Furthermore, interaction between the participants enables networking which is an important aspect of the doga project. Working intensively together and getting to know other participants with different backgrounds is a good breeding ground for continued cooperation among the participants also in future. In this sense, the project has had a good opportunity to contribute to building up of a community of design oriented start-up entrepreneurs, creative industry professionals and consultants in Innsbruck and Tyrol. The participants’ interviews suggest that, until now, this opportunity has however remained latent and participation in the doga events has not led to active cooperation between the participants afterwards. Regarding this, an interviewee pondered upon possibility to support continued networking by developing a local platform to connect the people who have participated in the doga events in Innsbruck.

Summary

The participants’ views of the learning outcomes vary depending on how novel the design oriented approach and accompanied methods have been for them. We notice that many of the early stage start-up and aspiring entrepreneurs have found the content of the doga events intriguing and useful for themselves. For them, the training sessions have been a source of new insights and perspectives, while also helped them to become familiar with design oriented approach and the practical ways it can be applied in the start-up environment. At the same time, participation in the doga events has offered them a good occasion to learn to cooperate and communicate with people who come from different educational and professional backgrounds.

The added value of the training sessions is although always not obvious, which at least some extent may relate to a mismatch between expectations and perceived benefits of a particular event. This may reflect the challenge to communicate the main message of the doga approach to the members of the target groups – an issue which the project team has been aware of and tried to solve in the course of the project. Besides of the communication problems, there can be other factors in play as well. With increasing interest in user driven approach and application of the principles of design (thinking) in innovation and business activities, there are more people who are aware of the methods and perspectives associated with design. Further, some of the modules (e.g. job-to-be-done and Business Model Canvas) of the doga framework are also taught at universities and applied by management consultants which increases the likelihood that some of the participants are familiar with them in advance. Consequently, there is a need to consider carefully and communicate to the target groups the key elements which differentiate both the content of individual training modules and the doga framework as a whole from the rest. From the perspective of sustainability of the learning outcomes, it is encouraging that the approaches and methods imparted to the participants are perceived widely applicable. This implies that the training

sessions are providing an essential understanding of the design oriented approach and methods for which the participants recognise different uses in their everyday activities.

Because of their backgrounds, the creative industry professionals are conceptually more familiar with the doga approach, implying that the added value from learning perspective may not necessarily be as evident as in case of early stage start-up entrepreneur. However, the doga set-up which brings together people from the three different target groups is clearly interesting laboratory for designers and other creative industry experts to participate and get in contact with start-up coaches and nascent entrepreneurs engaged in start-up processes.

There are distinct clues about link between perceived learning outcomes and frequency of participation in the doga events. Those participants who have attended in several events are satisfied with doga scheme and find the content of sessions rewarding and useful in their daily activities. The attitude of this group of participants towards design oriented approach clearly demonstrates that the doga project has a good opportunity to have behavioural impacts among the early stage start-up and would-be entrepreneurs.

Of course, the above mentioned linkage between perceived returns and frequency of attendance is not unexpected because participation in the doga events has been completely voluntary, and if someone has decided to participate in more than one occasion it demonstrates that the participant most probably perceives the doga content beneficial. With this in mind, we expect that higher attendance rate in the doga events would significantly support the diffusion of the design oriented approach to the target groups. In other words, the more training sessions a start-up entrepreneur takes part in, the more there are chances that s/he develops an attitude sympathetic to applying design oriented perspectives and methods in entrepreneurial activities. An apparent challenge here concerns how to encourage particularly the start-up and would-be entrepreneurs to participate more frequently in the doga events. When considering options to this, a care should be taken not to lose from sight importance of retaining flexibility which has characterised participation in doga events during the pilot project.

4. Concluding reflections

This final chapter presents conclusions to the three evaluation questions defined at the outset of the evaluation project.

Question 1. How succesful the project has been in development of concepts, methods and modules which support immersion of start-up and aspiring entrepreneurs into design-close thinking and effectuation approach? Are the modules implemented in the course of the project relevant to convey the main message of the project (i.e. design as a strategic resource for start-up firms)?

The doga project team has successfully developed and piloted a module based training programme which introduces the concepts and methods of design oriented thinking to the participating start-up entrepreneurs, creative industry professionals and start-up coaches. A draft for a module based training programme was prepared by the commencement of the project in spring 2014. Feasibility of the structure and individual modules of the doga framework, a curriculum, has been tested and verified during the pilot project. The content of modules and the framework as a whole has been continuously further refined and developed as the experience and feedback from the arranged events has accumulated. The iterative process has resulted in a finalised training programme which consists of three intertwining sets of 16 individual modules. The programme is tailored to introduce and immerse the participants from the three target groups in design thinking and its use in the start-up context in a progressive manner. Based on the participants feedback, the content of training modules are considered beneficial to early stage start-up entrepreneurs.

The project team should be commended for its success to organise training sessions, which have attracted a diverse early stage start-up audience interested in design and design thinking as a strategic instrument. The methods applied in the doga events have been intense and interactive. The findings show that the organisers have indeed succeeded to create in the doga sessions a micro cosmos which is captivating and simultaneously offers to the participants an opportunity to experience design thinking approach in practise. The events have created a space for cross-pollination and mutual learning by bringing together participants with differing educational and professional backgrounds and in different stages of start-up development.

2. Has the project managed to sensitize and convince the participating start-up coaches, who work day-to-day basis with start-up companies, about benefits of design-close approaches for new and would-be entrepreneurs? Has the project offered practical 'tools' and 'mind-sets' which start-up coaches can use to translate and disseminate design close approaches to new and would-be entrepreneurs?

Participation in the doga training sessions have provided the start-up coaches an opportunity to become familiar with design oriented methods and tools covered. There are recognised strengths in the design oriented approach and methods which can be useful and bring added value to coaching of start-up entrepreneurs. One of the main strengths perceived is the way the approach helps the participants to see things from new angles – participants are taken out of their typical thinking models to see things from different perspectives. Another strong element from the coaching perspective concerns the interactive methods applied in the doga modules which bring participants with different backgrounds together and enable mutual learning and feedback in the group.

We observe that in comparison to early stage entrepreneurs, the start-up coaches are a more demanding target group. As a rule, the start-up coaches are well versed with variety of training methods and tools used in coaching of entrepreneurs. Because of this they are capable to recognise common aspects between the design oriented approach stimulated by the doga and methods and approaches they apply in their daily work. The start-up coaches have also a broad overview of start-up entrepreneurs' situation and needs. From

this perspective the appropriate doga methods can be helpful especially to start-up teams which are in early or pre-incubation phase.

The design oriented approach and associated methods and tools can be used to complement and fill in dimensions which are currently less well covered in coaching of the start-up entrepreneurs. At the same time, it is important to take into account that early stage start-up activity includes several important aspects which are outside of the scope of the design oriented approach of doga. In a realistic scenario the doga approach and methods can be an important addition, not substitution, to the existing models used in start-up coaching.

Integration of the doga modules to the approach used in start-up coaching (at CAST) is not straightforward, though. There seems to be an inherent tension between the approaches which can complicate integration of the doga curriculum into the coaching practices. The approach adopted in start-up coaching is highly individualistic as the services are tailored emphasising unique needs of each entrepreneur or start-up team. In contrast, the doga approach is more holistic - a unique element of the doga is the framework and set of interlinked modules which differentiates it from individual workshops. Start-up entrepreneurs are guided gradually over several training sessions into thinking models, methods and approaches used by designers. In principle, the doga modules can be understood to form a self-containing buffet table, from which the participants can pick-up the modules which match to their needs – this has been largely the approach during the pilot project. Alternatively, it would be worth to consider to use the doga framework and modules as a starting point for tailoring and combining cohesive 'doga mini courses' which are delivered for a given group of participants presenting all the three target groups of doga in a predefined time span.

3. What are the immediate outputs and are there available indications of longer term impacts of the project activities? What is scalability of the pilot project outcomes? How the results can be scaled up and utilised in future in Tyrol and across Austria?

The project has been successful in achieving its main goal of imparting the design oriented mind-set, perspectives and methods to the participating early stage start-up and aspiring entrepreneurs. The project team has shown that it is possible contribute to awareness among the start-up and aspiring entrepreneurs regarding benefits of design oriented approach for business. Participation in the doga events has promoted a change in outlook to the point that the individuals engaged in start-up activity have become more aware of usefulness of design thinking for their business activities.

Particularly experience of people who have participated in two or more doga events suggests that the project has been able to foster a design oriented mind-set among the participants – notwithstanding that not all of them have been equally content with learning outcomes. There is also indication that the pilot project's aim to have more sustainable, behavioural impacts on level of mind-sets among the early stage start-up entrepreneurs is achievable.

Results of the pilot project show that the design oriented approach is useful for early stage start-up and would be entrepreneurs. There is need for training and coaching programme which introduces early stage entrepreneurs to design oriented thinking and using resources available to advance their start-up business.

Scaling up and dissemination of the doga approach and the results requires, however, that the project team considers carefully critical questions discovered during the pilot project implementation. The main challenges identified in the evaluation concern following questions: 1) how to communicate the message and aims of the doga programme to the different target groups with somewhat different expectations, 2) what are the means with which the programme can attract and encourage the start-up entrepreneurs to participate not

only once but in a number of doga events, and 3) in which way compatibility of the doga training programme and start-up coaching as practiced at CAST and other incubators in Austria can be strengthened and enhanced in future.

As mentioned above there is some inbuilt challenges between the doga model and approaches used in start-up coaching which should be taken into account also when considering opportunities to scale up the activity across Austria. To overcome these challenges there is call for a solution or solutions which combine specific needs of individual start-up entrepreneurs, methods used in start-up coaching and the doga training model. This is important if the aim is to have impact on level of mind-sets of the early stage-entrepreneurs towards design oriented approach.

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Appendix 1. List of persons interviewed

Gabriele	Adelsberger
Marcus	Ambrosch
Florian	Becke
Rudolf	Greger
Klaus	Grossinger
Erwin	Gutlederer
Pinar	Kilickiran
Verena	Mayr
Peter	Mirski
Martin	Mutschlechner
Hartmut	Müller
Antonio	Roa
Lisa	Schamschula
Stefan	Scholze
Mark	Schuchter
Benedikt	Schuhwerk
Clemens	Schöpf
Kathinka	van Zuilen
Andreas	Veber
Moritz	Willburger
Christian	von Craushaar

Appendix 2. On-line questionnaire

Survey on start-up development and innovation management

Dear Ladies and Gentlemen,

We ask kindly for your support in the following survey.

The focus of this survey lays on entrepreneurship, management of innovation and development of start-ups. Background of the survey is a project called “doga” (Designorientierte Gründungsarbeit = design oriented growth action) which is about the development of a framework supporting start-up entrepreneurs and start-up coaches.

With this survey the project team (consisting of CAST, GP designpartners, Marcus Ambrosch and MCI Management Center Innsbruck) aims at exploring the perception of start-ups, future start-ups and people interest in founding a company. The survey takes about 10 minutes.

We thank you in advance for your efforts and stand for any questions you may have.

The doga-team

Are you?

( ) Male
( ) Female

How old are you?

( ) < 25
( ) 25-34
( ) 35-44
( ) > 44

Did you participate in a doga event in the past? (Multiple choices possible)

[ ] doga-Jam
[ ] Effectuation-Workshop
[ ] Business Models Canvas Deep Dive
[ ] KundInnen verstehen, Nutzen verkaufen (Empathy Map)
[ ] Visualisierungsworkshop

[ ] No, I have not participated in a doga event

What is the current status of your (planned) start-up?

( ) Conception phase
( ) Start-up development
( ) Market entry & growth

Please, indicate the industry your start-up belongs to. (Multiple choices possible):

[ ] Life Sciences
[ ] Innovative Services
[ ] Information Technologies
[ ] Creative Industries
[ ] Other, please specify _____

What size does your start-up have? (number of employees)

( ) Not yet founded
( ) 1 (one-person company)
( ) 2-3
( ) 4-8
( ) >8

In which country (Austria, Germany, etc.)/federal state (Tyrol, Upper Austria, etc.) is/will your start-up be located?

[ ] Austria
  [ ] Burgenland
  [ ] Kärnten (Carinthia)
  [ ] Niederösterreich (Lower Austria)
  [ ] Oberösterreich (Upper Austria)
  [ ] Salzburg
  [ ] Steiermark (Styria)
  [ ] Tirol (Tyrol)
  [ ] Vorarlberg
  [ ] Wien (Vienna)
[ ] Germany
  [ ] Bayern (Bavaria)
  [ ] Baden-Württemberg
  [ ] Other
[ ] Italy
  [ ] South Tyrol
  [ ] Trentino
  [ ] Other
[ ] Switzerland
[ ] Liechtenstein
[ ] Slovakia
[ ] Slovenia
[ ] Czech Republic

[ ] Hungary
[ ] Other

Please, indicate what is your position in the company you are currently working? Tick as many options as needed.

[ ] CEO
[ ] Founder
[ ] Director
[ ] Partner (shareholder)
[ ] Employee
[ ] Other, please specify _____

Has your previous position(s) been in the same industry?

( ) Yes
( ) No, in which? _____

Please, define your market. Tick as many characteristics as you see suitable:

[ ] Mass market (large market to non-customised products)
[ ] Niche market (a specialised small subset of market)
[ ] B-to-B market
[ ] B-to-C market
[ ] Public sector/Government
[ ] Global market
[ ] Domestic market

Please, define the level of importance of the following competences to your start-up/start-up team:

1=not at all important 5=extremely important

	1				5
Technical	( )	( )	( )	( )	( )
Marketing & sales	( )	( )	( )	( )	( )
Ability to network	( )	( )	( )	( )	( )

Organising & managing operations	( )	( )	( )	( )	( )
Human (employees)	( )	( )	( )	( )	( )
Collecting financial resources	( )	( )	( )	( )	( )
Flexibility in work	( )	( )	( )	( )	( )
R&D co-operation	( )	( )	( )	( )	( )
Integration of design people	( )	( )	( )	( )	( )
Other, please specify	( )	( )	( )	( )	( )

To which extent are the following resources available for start-ups in your sector?

1= unavailable 5= always readily available

	1				5
Capital	( )	( )	( )	( )	( )
Low-cost factors of production	( )	( )	( )	( )	( )
Managerial expertise	( )	( )	( )	( )	( )
Technology expertise	( )	( )	( )	( )	( )
low-cost labor	( )	( )	( )	( )	( )

Has your start-up received public support for any of the following purposes?

	Yes	No
For R&D	( )	( )
For business and growth (including start-up phase)	( )	( )
For R&D collaboration with other companies/research institutes/universities	( )	( )
For internationalisation	( )	( )

Is your start-up/start-up team engaged in any of the following innovation activities?

	Yes	No
In-house R&D (research and development)	( )	( )
External R&D	( )	( )
Acquisition of machinery, equipment and software	( )	( )
Acquisition of external knowledge	( )	( )
Training for innovative activities	( )	( )
Market	( )	( )

introduction of innovations		
Design Thinking (work approaches and problem solving skill of designer)	( )	( )
Other, which?	( )	( )

Please, rate the following objectives for undertaking innovation projects:

1= not at all important 5= very important

	1				5
Improve existing product/service quality	( )	( )	( )	( )	( )
Improve production flexibility	( )	( )	( )	( )	( )
Reduce production costs	( )	( )	( )	( )	( )
Improve yield or reduce material consumption	( )	( )	( )	( )	( )
Open up new markets	( )	( )	( )	( )	( )
Introduce new products/services	( )	( )	( )	( )	( )
Enter new technology fields	( )	( )	( )	( )	( )
Extend product/service	( )	( )	( )	( )	( )

range

Think about the Bundesland (Federal state) you live and tell us the extent to which you agree with the following statements:

	1= strongly disagree 7= strongly agree						
	1						7
Government organisations at local and/or national levels assist individuals with starting their own business	( )	( )	( )	( )	( )	( )	( )
The local and/or national goverment sponsors organisations that support existing businesses to innovate	( )	( )	( )	( )	( )	( )	( )
Turning new ideas into businesses is admired	( )	( )	( )	( )	( )	( )	( )
Those who start their own businesses are admired	( )	( )	( )	( )	( )	( )	( )

Assess the importance of the following items in your start-up company/start-up team:

	1= strongly disagree 7= strongly agree						
	1						7
People receive support and encouragement when presenting new ideas	( )	( )	( )	( )	( )	( )	( )
Initiative often receives a favorable response, so people feel encouraged to generate new ideas	( )	( )	( )	( )	( )	( )	( )
Our business emphasise both exploration and experimentation for opportunities	( )	( )	( )	( )	( )	( )	( )
Our business is creative in its methods of operation	( )	( )	( )	( )	( )	( )	( )
We excel at identifying opportunities	( )	( )	( )	( )	( )	( )	( )
It is part of the work to take risks in this organisation	( )	( )	( )	( )	( )	( )	( )
It is part of the work to venture into unknown territory	( )	( )	( )	( )	( )	( )	( )
It is part of the work of the entrepreneur and co-workers to collect, bring back and report information about what is going on	( )	( )	( )	( )	( )	( )	( )

outside the company							
There are systems and procedures for receiving, collating and sharing information from outside the company	( )	( )	( )	( )	( )	( )	( )
It is part of the work to interact with environment: co-workers, competitors, customers, technological institutes, universities, suppliers etc.	( )	( )	( )	( )	( )	( )	( )
Most people know where to find information about markets for their products/services	( )	( )	( )	( )	( )	( )	( )
There is a free and open communication within the community in which my company/start-up team is embedded	( )	( )	( )	( )	( )	( )	( )
Cross-functional teamwork is a common practice in my company	( )	( )	( )	( )	( )	( )	( )
Cross-functional teamwork is a common practice in my business	( )	( )	( )	( )	( )	( )	( )

area							
Employees/co-workers are frequently involved in important decisions	( )	( )	( )	( )	( )	( )	( )
Policies are significantly influenced by the employees'/co-workers' view	( )	( )	( )	( )	( )	( )	( )
It is possible to act and think without inferences	( )	( )	( )	( )	( )	( )	( )
Employees/co-workers have access to all vital information	( )	( )	( )	( )	( )	( )	( )

Indicate whether you agree or disagree with the following statements related to development of new offering in your firm/to be founded firm:

1= not important 7= very important

	1						7
Quality in designing the product/the service	( )	( )	( )	( )	( )	( )	( )
Manufacturability in designing the product/the service	( )	( )	( )	( )	( )	( )	( )
Low cost designing in products/the service	( )	( )	( )	( )	( )	( )	( )
Designing and launching new	( )	( )	( )	( )	( )	( )	( )

products/services fast	

Describe in three words the skills critical for success in business your company is/intends to be active:

1. _____

2. _____

3. _____

Indicate whether you agree or disagree with the following statements related to development of new offering in your firm/to be founded firm:

	1= strongly disagree 7= strongly agree						
	1						7
Customers are involved in development of new offering	( )	( )	( )	( )	( )	( )	( )
Collaborators are involved in development of new offering	( )	( )	( )	( )	( )	( )	( )
New offering/product/services ideas are derived from customers	( )	( )	( )	( )	( )	( )	( )
I'm/my company is open doing things differently and/or to seek out new ways to do things	( )	( )	( )	( )	( )	( )	( )

Below are presented some statements about development of novel offering in a start-up firm/start-up team. Please, assess how much you agree or disagree with the following statements:

	1= strongly disagree 7= strongly agree						
	1						7
I'm/my company is flexible enough to learn new skills and competences	( )	( )	( )	( )	( )	( )	( )
Innovative and creative thinking is the route to success	( )	( )	( )	( )	( )	( )	( )
Design is the route to success	( )	( )	( )	( )	( )	( )	( )
Design Thinking (work approaches & problem solving skill of designer) is the route to success	( )	( )	( )	( )	( )	( )	( )
The company becomes quickly aware of competitors' innovations and imitations	( )	( )	( )	( )	( )	( )	( )
We introduce improvement and innovations in our business	( )	( )	( )	( )	( )	( )	( )
Clarity of user needs is indispensable for determining the requirement for a novel product/service/business concept	( )	( )	( )	( )	( )	( )	( )
Observing and interacting with users in their environment is important for definition of a problem or opportunity	( )	( )	( )	( )	( )	( )	( )
Collaborative ideation (e.g. brainstorming) is an important source of ideas	( )	( )	( )	( )	( )	( )	( )

Making abstract ideas tangible, prototyping and testing, is important as a source of (further) ideas	( )	( )	( )	( )	( )	( )	( )
Making abstract ideas tangible, prototyping and testing, is important for evaluation of novel ideas	( )	( )	( )	( )	( )	( )	( )