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# THE DEVELOPMENT OF EFFECTIVE NEW VENTURE TEAMS IN VENTURE CREATION PROGRAMMES

## ABSTRACT

**Purpose** – The purpose of this study is to explore how effective new venture teams are developed in venture creation programmes.

**Design/methodology/approach** – This paper presents a multiple case study focusing on the development of effective new venture teams. Semi-structured interviews with 15 new venture teams from two different venture creation programmes were conducted and an abductive analysis approach was used.

**Findings** – Three key phases of the development of an effective new venture team are identified: (1) establishing a foundation for collaboration, (2) structuring the teamwork and (3) adapting to changes. Key activities undertaken by effective new venture teams in each phase are explicated. The findings suggest that new venture teams that are able to establish a foundation for team collaboration and teamwork structuring have the capacity to persevere through the challenges inherent in emerging ventures.

**Originality/value** – This study offers a much-needed practical perspective about how effective new venture teams are developed in venture creation programmes, and how venture creation programme educators can facilitate the development of effective new venture teams. For educators, these findings provide important insights about team-based learning in entrepreneurship education.

**Keywords:** New Venture Teams, Venture Creation Programmes, Entrepreneurship Education

**Paper type** Research paper

## **Introduction**

Entrepreneurship education often uses team-based learning situations (Hytti, Stenholm, Heinonen, & Seikkula-Leino, 2010; Karlsson & Nowell, 2020), and this strategy has been particularly employed in venture creation programmes (VCPs) where students learn entrepreneurship through the experience of starting real-life ventures in a safe environment (Haneberg & Aadland, 2019; Lackéus & Williams Middleton, 2015; Ollila & Middleton, 2011). In VCPs, these student teams are called new venture teams, or NVTs (Barr, Baker, Markham, & Kingon, 2009; Haneberg & Aadland, 2019; Lackéus & Williams Middleton, 2015; Ollila & Middleton, 2011). An effective NVT is crucial for successful venture development (Kamm, Shuman, Seeger, & Nurick, 1990; Klotz, Hmieleski, Bradley, & Busenitz, 2014), and both the venture development itself (Haneberg and Aadland, 2019) and the behaviour of the NVT (Hytti et al., 2010) play an important role in learning (Haneberg & Aadland, 2019). Creating a new venture is a co-emergent process for both the venture and the NVT (Timmons, 1990), and the learning experiences of students depends on their experiences with venture creation (Haneberg & Aadland, 2019; Ollila & Middleton, 2011). Students in NVTs that abandon the venture creation process before graduation and venture launch will not experience the later phases of the entrepreneurial process and learn less about the process (Haneberg & Aadland, 2019; Ollila & Middleton, 2011).

Most research to date about teams and team behaviour (in entrepreneurial and working teams) has focussed on the formation stages, team characteristics, and outcomes (e.g. Ferriani, Cattani, & Baden-Fuller, 2009; Zhou & Rosini, 2015), and has mostly been based on quantitative and retrospective data (e.g. Amason, Shrader, & Thompson, 2006; Eesley, Hsu, & Roberts, 2014). However, little work has been done on early-stage NVTs (that is, post-formation but before the teamwork is really started) or followed NVTs in real time (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006). Calls have been made for research to capture the

internal processes that are required for an NVT to progress (Hackman & Morris, 1975; Klotz et al., 2014), and more information is needed about action-based entrepreneurship education so that we can better understand the factors that influence students' learning beyond entrepreneurial action, experience and reflection (Haneberg, 2019).

This study investigates how NVTs accomplish their goals and objectives, how they enhance and maintain member collaboration, and how they contribute to the learning experience of their members (Ben-Hafaïedh, 2017; Hackman, 1987; Hackman & Morris, 1975). Real-time data is used (Forbes et al., 2006) to reveal the internal processes of effective NVT development, and show how these processes facilitate learning. The two specific research questions are: (1) *How do effective NVTs develop in VCPs, and* (2) *How does this development facilitate student learning?*

These research questions are addressed through a longitudinal case study of 15 NVTs recruited from two VCPs (one in the United States and one in Norway). Both VCPs take an action-based approach to entrepreneurship education and involve students who are highly motivated towards entrepreneurship. These two VCPs were chosen because they provide different structures and activities supporting venture creation as a key method for student learning. Team-based venture creation is at the core of both programmes, but they differ in duration, content, and cultural context. These contextual differences allow us to examine team processes in different situations and identify elements common to the development of effective NVTs across contexts.

This real-time study of effective NVT development in VCPs contributes to our understanding of how effective NVTs are formed in three ways. First, this study identifies three distinctive, stepwise phases in NVT progression (Klotz et al., 2014) that characterize effective NVT development and, consequently, shape student learning experiences. Second, the observations demonstrate internal NVT processes (Jin et al., 2017; Klotz et al., 2014; Knight,

Greer, & De Jong, 2020), which allows us to develop a process model that explains the key activities undertaken by effective NVTs in each phase and illustrates how these phases are interrelated and build on each other. Third, the findings give a nuanced picture of how learning in VCPs is influenced by the students' abilities to develop effective NVTs (that is, NVTs that successfully create ventures). These findings are both practically relevant and theoretically important because understanding the development of effective NVTs can help explain observed differences in students' learning processes (Haneberg & Aadland, 2019) and can help instructors facilitate development of effective NVTs.

## **Theoretical Framework**

### ***Effective NVTs for Learning in VCPs***

In new venture teams (NVTs), two or more individuals commit to creating a new venture (Brattström, 2019) and leading it through the necessary stages of the creation process (Ensley, Hmieleski, & Pearce, 2006). The initial role of an NVT is to interpret and respond to the external environment while simultaneously managing the venture internally (Hambrick, 2007; Schjoedt & Kraus, 2009), a role that is complicated by the novelty and unstructured tasks of venture activities (Amason et al., 2006), and by the lack of historical knowledge (Cooper, Gimeno-Gascon, & Woo, 1994). For students, the inherent tension of combining real-life venture creation with the learning objectives of a class adds to an NVT's complexity. A student NVT is responsible for the progress and performance of its own venture (Haneberg & Aadland, 2019), as well as the learning outcomes of each individual team member. As with other forms of collaborative learning, students have influential roles in both peer learning and their own learning (Pittaway & Cope, 2007).

To foster student learning in venture creation programmes, an NVT needs to accomplish its goals and objectives and enhance and maintain collaboration among its members (Ben-Hafaïedh, 2017; Hackman, 1987; Hackman & Morris, 1975). An NVT's effectiveness can be

measured by the output produced by the team, whether internal social processes enhance future working relationships, and the group contributions to the learning, satisfaction, and growth of each of its members (Hackman 1987).

In an effective (student) NVT, members work well together and considerably harder towards team goals (which consequently are more likely to be achieved) than individual goals, and they manage to balance the inherent tensions between real-life venture creation and academic performance (Deeter-Schmelz, Kennedy, & Ramsey, 2002; Larson, Larson, & LaFasto, 1989). Conversely, when team members do not work well together, conflicts, confusion, and uncertainty can arise and make any NVT (whether made up of students or not) less able to accomplish tasks that individual team members might be capable of performing (Hackman, 1990; Larson et al., 1989). In non-academic settings, problems within a (non-student) NVT are the most common reason for venture termination (Brattström, 2019; Eisenhardt, 2013), and the same pressures almost certainly apply to student NVTs, which of course must also deal with the additional challenge of combining real-life venture creation and academic performance. Some student NVTs fail to pass through all phases of the venture creation programme and end up abandoning venture creation before graduation (Haneberg & Aadland, 2019; Ollila & Middleton, 2011).

Drawing on prior research about NVTs, entrepreneurial teams, and group work in general (henceforth NVT literature) and VCPs in particular, the following sections address key steps in the formation and development of effective NVT, with the goal of understanding how student NVTs can manage venture progress and maintain learning throughout the duration of the programme (Haneberg, 2019; Haneberg & Aadland, 2019).

### *Formation of Effective NVTs*

NVT formation is the process by which individuals form a team to start a new venture (Lazar et al., 2020) and the phrase refers to the initial structuring and strategic choices made by the NVT (Ben-Hafaïedh, 2017). When an NVT forms, individuals have the opportunity to search for and select people to help initiate the new venture (Forbes et al., 2006; Lazar et al., 2020). How an NVT initially structures its teamwork is crucial for the learning processes of team members (Ravasi & Turati, 2005), for later phases of venture creation (Bird, Schjoedt, & Baum, 2012), and for venture success (Knipfer, Schreiner, Schmid, & Peus, 2018; Schjoedt & Kraus, 2009), all of which place high demands on these teams (Knipfer et al., 2018; McMullen & Shepherd, 2006).

NVT formation has particularly been explored in terms of team composition (e.g. Chen, 2007; Ferriani et al., 2009; Zhou, Zhang, & Shen, 2017) and team characteristics (e.g. Leary & Devaughn, 2009), highlighting the role of prior experiences as important attributes of venture success (Jin et al., 2017; Jung, Vissa, & Pich, 2017). In student NVTs, team members typically have limited prior experiences of working on large projects, in relevant industries, or as entrepreneurs. Consequently, student NVTs can face extensive challenges in team formation. In sum, the literature shows three aspects are particularly important for the initial phases of developing what will turn out to be an effective NVT: *members' initial motivations, role structure, and predefined NVT tasks*.

*Initial motivation* – In VCPs, NVTs mainly consist of students (though sometimes external individuals are included; Barr et al., 2009; Lundqvist, 2014) with different ambitions and motivations regarding the goals that must be achieved and tasks that must be accomplished (Chandler, Honig, & Wiklund, 2005), and perhaps different ideas about how collaborate (Breugst, Patzelt, & Rathgeber, 2015; Chandler et al., 2005). For example, individual students can have different motivations for joining a VCP: some may wish to become successful

entrepreneurs, while others may join to learn about entrepreneurship and gain experience on their way to becoming business developers in consulting companies. Individual goals and motivations will always be present in an NVT, and members need to have a strategy for coping with differences if the work of the NVT is to move forward. Student NVTs are sometimes advised to develop interpersonal motivations that emphasize “fit” and “chemistry” among team members to facilitate team dynamics (Zhou & Rosini, 2015), and these motivations are often based on friendship (Francis & Sandberg, 2000) and social ties (Discua Cruz, Howorth, & Hamilton, 2013). However, when motivations regarding goals are different, there can be conflicts both about tasks and relationships that may hamper NVT development (Chen & Wang, 2008).

*Team structuring* – Team structuring can be defined as the “persistent and interrelated features of a group, such as roles and norms that influence the functioning of the group as a whole and create regularities in the interactions of its members” (Forsyth, 2009). Team structuring refers to the design of a team and includes “those features of the task, group, and organization that can be directly manipulated by managers to create the conditions for effective performance” (Cohen & Bailey, 1997, p. 243), so the structure of a team includes issues like who is a part of the team and how teamwork is organised, and it is contingent on the context in which the team operates (Mathieu, Maynard, Rapp, & Gilson, 2008; Stewart & Barrick, 2000). When forming an NVT, students have been advised to develop internal structures (Breugst et al., 2015) that enable members to balance the roles of being students, entrepreneurs and members of an NVT while simultaneously enabling the NVT to become effective.

*Creating NVT tasks* – The early phase in venture creation places high demands on the team as a whole and on each individual team member (Knipfer et al., 2018; McMullen & Shepherd, 2006), and task formalization is a critical factor during team formation (Jung et al., 2017). As the venture creation process moves forward and changes, the tasks required of NVT



members may also change (Knipfer et al., 2018), and an NVT needs to be aware of and prepare for the possible need to adapt its structure during the course of action (Cope, 2003). Newly created venture teams need to predefine some tasks related to initial structures, norms, roles and interaction patterns, but even so, it is not always feasible for newly formed ventures to give individual members distinctive tasks (Edelman, 1990).

### *Development of Effective NVTs*

Research on team development has mainly focused on how team activities change over the lifetime of that team (Miller, 2009) and how interaction processes within the teams can impact both effective team development and venture performance (Kamm & Nurick, 1993; Watson, Ponthieu, & Critelli, 1995). Previous studies have emphasized that for a NVT to become effective, the team needs to go through an interaction process that combines the human and social capital of its members (Hackman, 1987), so that it develops efficient communication, routines, leadership and supportiveness (Lechler, 2001; Watson et al., 1995). An NVT also needs to develop shared understanding among its members related to business strategies and team structure to increase its chances of success (Watson et al., 1995). NVTs that lack a common understanding often fail in communicating goals and aspirations among the founders of a firm, which can result in problems both during the early phase and the growth phase of a venture (Timmons, 1990).

Most research on NVT performance has focused on characteristics of an NVT itself (e.g. ; Jin et al., 2017; Steffens, Terjesen, & Davidsson, 2012; Zhou, Hu, & Zey, 2015). For example, recent research has shown that several internal factors of NVTs influence how team members work together and how that cooperation affects venture performance. One such internal factor is friendship among NVT members, which clearly can influence NVT interactions (D'Hont, Doern, & Delgado García, 2016; Francis & Sandberg, 2000), and can also affect an NVT's

commitment to a failing venture (Huang, Souitaris, & Barsade, 2019). Shared cognition is important for ameliorating conflicts within an NVT (Chen, Chang, & Chang, 2017) and the importance of the processes that lead to shared cognition have been highlighted (Ensley and Pearce, 2001). However, these factors have mostly been studied in isolation, without consideration of how these factors influence each another (Diakanastasi, Karagiannaki, & Pramadari, 2018) and develop over time.

In sum, the literature to date provides insights into the barriers to and success criteria for effective NVT development and performance, but what is lacking is insight into the internal processes that take place within NVTs and lead to the stepwise progression (Klotz et al., 2014) needed for learning (Haneberg, 2019). This paper respond to these shortcomings by presenting a longitudinal case study on the process of development of effective NVTs.

## **Method**

### ***Research Design***

This study draws on a qualitative multiple case study approach with 15 NVTs from two different VCPs (Yin, 2013). The use of a longitudinal case study design is valuable for recognizing and evaluating relationships among constructs and providing new theoretical insights into NVT development processes, and how this development facilitates student learning (Eisenhardt & Graebner, 2007). The NVTs included in this study differed in terms of member composition, size, financial ownership, and industry, and therefore are representative of the diversity of roles played by NVTs within the shared context of VCPs.

### ***Context: NVTs in VCPs***

To investigate a variety of NVTs and explore whether different VCP structures can influence effective NVT development and student learning, two different VCPs, one in the United States and one in Norway (see Table I) is used. The two VCPs were selected as contexts because they have long traditions and strong focuses on action-based entrepreneurship education and teamwork for student learning, and are connected to robust educational ecosystems in their respective countries. The two VCPs are also similar in that their students tend to be strongly motivated to learn and by venture performance. However, these VCPs are also different in several respects, such as duration of the programme, the educational system in which the programme is embedded, programme structure, economy, policy, and culture. These contextual differences provide the opportunity to look for similarities and differences in student NVT development and to identify common elements for the development of effective NVTs, which can potentially be transferrable to other VCP contexts.

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VCP 1 is a two-year graduate degree programme in Norway with a focus on business development and technology-based entrepreneurship; it is an interdisciplinary programme that accepts students with a bachelor's degree or equivalent, meaning that the programme includes students with a variety of educational backgrounds (e.g. engineering, IT, social sciences, economics, and nursing). These students form NVTs based on self-selection principles with fellow students of their choosing and are also free to include individuals outside the VCP, which means that some student NVTs can be formed based on friendship, while others are more

strategically created to ensure heterogeneity among NVT members. Once the NVTs are formed, a venture idea is selected approximately three months into the programme. In addition to taking courses together, programme facilitators and the students themselves initiate different activities and events that increase the students' acquaintances with each other. Students take a mandatory course that has a learning objective related to team development and in which they learn about tools and methods for developing their NVT. In addition to this course, NVTs are supported by a mentor with entrepreneurial experience.

VCP 2 is a summer venture programme in the United States that lasts for 10 weeks and is designed to accelerate the development of students' entrepreneurial ventures. The programme is offered to all undergraduate and graduate students with a viable business idea that attend one of three nearby institutions that mainly educate students in the fields of business, arts and engineering. Students apply to the programme as individual entrepreneurs or as an NVT, which means that NVTs in the programme may therefore have existed for years, while others might have been newly formed just prior to the start of the programme. NVT formation is based on self-selection, usually without input from VCP facilitators. Not all NVT members need to be present to participate in the programme, as some NVTs have members working remotely. VCP 2 mainly focuses on building students' businesses rather than developing NVTs, and thus, these students receive little formal support for the development of their NVTs. However, NVTs are paired with dedicated advisors and mentors to support them in this process.

### ***Participant Selection***

Having a broad empirical basis for a study with multiple diverse sources of information is an effective way to obtain data and is consistent with a great deal of case-based work (Eisenhardt & Graebner, 2007), and so fifteen NVTs serve as the primary source of data for this study. One of the authors was able to use personal contacts with the instructors of the programmes who

then helped us contact programme participants.<sup>1</sup> In VCP 1, the candidates were recruited from two different cohorts, the first starting in 2017 and the second starting in 2018. Initial contact was made by the programme facilitator, followed by an invitation from one of the authors for volunteers to participate in the research project, at which point five NVTs from the first cohort and three from the second cohort volunteered for the study. All the NVTs from VCP 1 initially included 2-4 members, and in total, 25 individual participants joined the research project. A similar selection process unfolded for VCP 2, where candidates were identified by the programme facilitator and invited by one of the authors to participate in the project. Seven NVTs from VCP 2 participated in this study, which initially included 2-3 NVT members that sometimes had different backgrounds and nationalities, and sometimes, these NVTs also included remote members. In total, 11 individuals from VCP 2 participated. To anonymize the data, the NVTs were renamed as Team A, Team B, etc., to Team O, and individuals quoted in the material below have had their names changed to match the team name. An overview of the participants is presented in Table II.

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### ***Data Collection***

Data was collected over the 16 months from December 2017 to March 2019. Basic information about the VCPs was gathered from talking to five faculty members and programme managers and through web-based resources to obtain a deeper understanding of the desired learning outcomes, designs, requirements, schedules, structures and aims of these two programmes.

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<sup>1</sup> The authors are not involved in the programmes nor employed at the educational institutions, and do not have any conflict of interest in doing this research.

The development process of student NVTs was explored through semi-structured interviews with NVT members. In each case, one to three NVT members were interviewed individually two or three times. Group interviews were also conducted for 10 NVTs. The data consisted of 94 interviews with NVT members, the interviews lasted on an average of 30 minutes each, and in total approximately 50 hours of recorded interviews (Table III). Interviews had an interview guide to follow which included questions about the team formation process, teamwork, the division of roles and responsibilities, the origin of the business idea, the daily routines of the NVT, the role of the VCP in developing the NVT and venture, team challenges and potential conflicts, and the venture creation process. To obtain detailed information about critical events in the process, the interviewers asked follow-up questions for more information like “What happened in detail?”, “Why did you do that?” and “When did that happen?” After the interviews, written information about the NVTs and members was gathered, such as their applications to VCPs, pitching material and NVT presentations. This information was later used to triangulate the information provided by interviewees (Yin, 2013).

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Insert Table III about here  
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### ***Coding and Analytical Approach***

The current literature includes theories of effective new venture team processes to draw on (Eisenhardt, 1989), and the analysis is based on procedures for abductive data analysis (Alvesson & Sköldberg, 2009; Gioia, Corley, & Hamilton, 2013) including a comparison of emerging findings to extant theory. Inspired by the work of Gioia et al. (2013), a systematic conceptual and analytical procedure that was transparent, plausible and rigorous (Gehman et al., 2017; Gioia et al., 2013) was followed. Qualitative analysis software (NVivo 12) was used

to aid in the coding process and to extend the theoretical framework of effective NVTs in VCPs following the stepwise coding approach offered by Gioia et al. (2013).

First, the coding analysis progressed through first-order coding, where participant data was systematically coded to observe the enablers of and barriers to effective NVT development, which were clustered in first-order categories (see the coding structure in Table IV). Second, in second-order coding, more abstract, theoretically-relevant researcher-centric codes and concepts were mapped. In the third step, the level of the abstraction of concepts was raised to aggregate dimensions and used to structure the data accordingly (Gioia et al., 2013).

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Insert Table IV about here  
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Based on the coding process, the various concepts, themes and dimensions were developed into a process model that illustrated the relationships among the emerging concepts. Consistent with abductive traditions, the data were revisited from the theoretical perspective to identify the sequences of and linkages among the themes, transforming potentially static concepts into dynamic processes.

## **Findings**

Analysis of the data revealed patterns in the development of NVTs that were effective for student learning in VCPs. Three key phases were identified: 1) *establishing a foundation for collaboration*, 2) *structuring the teamwork*, and 3) *adapting to changes*. Figure 1 illustrates a process model of the development process of effective NVTs by emphasizing the relationships among these key phases and the related activities performed, which moderate the development of effective NVTs in each phase. The model shows that the phases feed into each other,

demonstrating that newly formed NVTs need to go through all phases of the process to become effective.

The two VCPs in this study had several structural differences that may have influenced effective NVT development and how that development process facilitated learning. The amount of time that could be taken by the venture creation process is the most central difference between the two programmes. However, the two VCPs had relatively equal proportions of effective NVTs that progressed through the same phases for the most part (some phases were skipped by some groups), strengthening the validity of our findings.

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Insert Figure 1 about here  
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### ***Phase 1: Establishing a Foundation for Collaboration***

Regardless of how the group was formed, successful NVTs established a foundation for collaboration. In other words, team members initiated processes that laid the foundation for future collaboration at the very beginning of NVT formation. Two key elements appear to be important for effective NVTs while they are establishing this foundation. First, these NVTs created a *mutual understanding* among members about what collaboration means. Second, they ensured that all members developed *psychological ownership* of the venture creation process.

#### ***Mutual Understanding***

NVTs that successfully created a mutual understanding among members developed a comprehension of the contribution of each member, which involves open and honest dialogues in which team members share their own experiences, competences, role preferences, and visions for teamwork, with the intention of developing mutual understandings of how each



member's skills and behaviours will influence interactions within the NVT. These dialogues happen throughout the team formation process because it takes time for NVT members to become acquainted with each other. One student, Caroline, stated the following about the importance of having open and honest dialogues when forming an NVT:

*I feel that this is something that we have stated from the beginning because we are such good friends; we have to be honest. If there is something that is bothering you [...] we need to be able to talk about these things. I feel that this has been the focus from the early beginning. (Caroline, Team C)*

When NVT members wish to establish mutual understanding among their members, members discuss expectations. For example, Team F agreed to split their NVT into two parts in regards to work effort, as one team member described:

*We have talked a lot about what their [Finn and Fabian] ambitions, thoughts and expectations to our case are. They are supposed to be quite passive or actually totally passive. They gladly contribute to the network that they have, knowledge and stuff, but they will not spend five hours a day working on this now. So, in that regard, they are passive. (Frank, Team F)*

More importantly, in this process, the NVTs work to reveal each member's true goals, experiences, knowledges, preferences and other relevant information that will influence what they expect from each other. Occasionally some members may have gotten carried away and overestimated their own capacity when sharing visions for collaboration, but once the real capacities are known by all members, these NVTs can adjust and create a genuine mutual understanding. For example, when talking about expectations about work effort, Amelia stated the following:

*When you go into a start-up, before you start working, everyone states that they will give 120%, but then you have boyfriends and friends and are involved in other voluntary activities. So, it is not happening. Thus, we needed to have a discussion about that a few weeks ago. (Amelia, Team A)*

NVTs that did not succeed in creating a mutual understanding experienced asymmetry in expectations among NVT members and had less understanding of each member's contribution to the NVT.

### *Psychological Ownership*

Successful NVTs also allowed all members to develop a feeling of attachment and dedication to the process from early on. This aspect can be conceptualized as psychological ownership (Pierce et al., 2001) of both the NVT and the venture creation process. Team members that have developed psychological ownership used “our” when talking about their business idea or, as described by Ottis (Team O), say things like “*it is our baby.*” Members of NVTs that later prove to be effective also expressed the willingness to make sacrifices for the good of the venture development, or as Alice put it:

*“If we are to succeed as a start-up, then we cannot be involved in much else. We need to make some sacrifices, and it is very difficult to get something done by just working from 8 am to 4 pm. You have to work from 8 am to 8 pm.”* (Alice, Team A)

Several of the effective NVTs also saw the positive value of having NVT members get along, because good chemistry among NVT members influences the dynamics and work environment among members. This feeling was expressed by Nina:

*I think, so far, it is awesome; most team members are remote and only come in once a week, but I think that this business is sort of just an attraction... just an incredible set of women. In addition, it is just bringing good people together, and it is easy to get along with other good people.* (Nina, Team N)

The origin of the venture idea seems to be an influential factor accounting for (at least initial) differences in psychological ownership among NVTs. For an NVT that proves effective,

it was important that all members developed a feeling of attachment to the idea, as well as to the NVT, so that they were developing something that was “theirs.” Or as Clara put it:

*This is close to her [Caroline, idea owner] heart, in a way, so it is important that we are at the same level and that we get a sense of ownership for it. Even though Caroline has some thoughts and leads now, we do not necessarily need to agree on them[...] both when it comes to concept development and to getting on the same level when it comes to the idea. (Clara, Team C)*

In the group interview with Team D, Dennis expressed the negative effects of asymmetry in psychological ownership, where one member is more attached to the venture idea than are the other NVT members:

*We have wasted a lot of time disagreeing. It has been challenging at times. We are very different, and in our situation with Dexter as the idea owner, I think it has been difficult for Dexter to adjust [to being in an NVT], so it is hard for us to agree with him. However, I feel like we are in the process of solving it. (Dennis, Team D)*

Team D did not solve this situation, and the NVT split up approximately 6 months after the interview. In a later interview, Team D member Daniel said that he “*felt more like an employee and not the cofounder, and that is what I am here [in the VCP] for.*” This quote illustrates the scope of the consequences for NVTs that are not able to develop common psychological ownership.

### ***Phase 2: Structuring the Teamwork***

After the NVTs have created a foundation for collaboration with mutual understanding and psychological ownership in the first phase, effective NVTs start to develop structures for teamwork. The need for the structuring and sharing of functions arises in conjunction with NVTs starting to engage in several venture creation activities, something that requires them to distribute tasks and capacity among members. Analysis of the data reveals two processes that appear essential for whether the NVTs manage to structure themselves efficiently, enabling them to work together to develop a venture without unnecessary disruptions in the collaboration.

In this phase, effective NVTs develop structures that create decent decision-making routines, in which members agree while simultaneously ensuring a joint commitment among NVT members.

### *Decent Decision-Making Routines*

Engaging in strategic decision-making when developing a new venture is a key task for NVT members. NVTs that are able to establish good decision-making routines (i.e., routines that members agree about) are those that, in the structuring phase, focus on having good discussion processes and building trust among members. In the early stage of the venture creation process, most NVTs in this study found it important to include all members in decision-making discussions, as illustrated by Keira:

*So, right now, it is more like a flat structure, where we discuss whether or not we want to and how we want to proceed. We want to make that decision making... we think that Kelly will be best to be the CEO and decision maker, but now, we are all communicating and deciding. (Keira, Team K)*

Discussions within NVTs enabled each member to bring their perspectives into the process and signal that all members' opinions were important. However, these discussions seem to be influenced by the size of the NVT in question and what its members agreed upon during the first phase. For example, some NVTs included *passive* and *active* members, where the active members were those who are involved in discussions and decision making on a day-to-day basis, and the passive members contribute knowledge or specific tasks and depend on decisions made by the active members. Caroline stated the following:

*We [Caroline, Clara, and Celine] that are a part of the [VCP] and work eight to ten hours a day on this project, we are the ones who take the lead, are responsible for the progress, and make decisions that do not have a significant financial influence on our venture. The passive group is the "knowledge bank," as I call it. [...] They attend meetings, have input and are obligated to follow the work we do but are not responsible for the progression. (Caroline, Team C)*

Finding the most effective way to make decisions is a challenging task for NVTs, especially in regard to defining the degree of involvement of each NVT member in the decision-making process. For that reason, NVTs often implemented a test period so that they could determine what works best for them. For example, in Team J, members needed to change the distribution of power among themselves, because they were experiencing an inefficient decision-making process:

*We have had a lot of challenges; the moment where the three of us were having the same kind of decision power, that was a tricky one, that was a really tricky one. Therefore, we realized that it is better to have a pyramid structure, where there is someone who is really in charge of things. (Jonah, Team J)*

The allocation of roles and responsibilities is a foundational task in which all NVTs engage from the very beginning of NVT formation, and is clearly something that NVT members keep in mind when forming NVTs, because they imagine how each NVT member's competence or experience will contribute to the venture creation process. However, in the initial stages of the venture creation process, it can be difficult to imagine what the day-to-day work tasks will look like, and NVTs therefore must learn how to balance unstructured tasks and overlapping roles. Or, as Bianca put it:

*I was supposed to be responsible for the technical part. So, that was my role. Beatrice was the CEO, and [Benjamin] was responsible for marketing. However, everything has just slipped into each other because, in a way, we have no need to market a product we do not have. [...] We need to figure out how to distribute our efforts better and how Benjamin, who cannot work with marketing, may help me with the production side of the product. (Bianca, Team B)*

Some NVTs focused on establishing clear goals for their ventures to help guide decision making. Adele describe her goals and priorities this way:

*One important decision, which is personal but also applies to NVTs, is that Alice and I are not going to [summer school in US offered at VCP 1] this summer. [...] I love to travel, but I realized that if we are to develop this concept further, then it would have delayed the process a lot. I see now, as we have been in so many partner meetings in*

*Oslo, that the summer will be the perfect time for a pilot project. I am very glad that we made that decision, and I think it is really important for our progress with [the venture].*  
(Adele, Team A)

Without having a shared vision and plans for what an NVT should focus on or what it wants to achieve through the venture creation process, it is difficult to progress and be efficient in venture creation. Edgard elaborated this theme when talking about challenges for Team E: *“Synchronizing and communicating. Try to keep all members on ‘the same page’ so that we can be efficient in our discussions and move on.”* And as fellow team member Eva added, *“We have tried to come up with suggestions for project plans to concretize what we should do. However, we are moving a bit in all different directions and that may be because we are not completely synchronized as a team.”*

#### *Joint Commitment*

Developing a joint commitment among NVT members is important for structuring teamwork, because it has implications for how dedicated NVT members are to contributing to the team. To create joint commitment, NVTs must agree on why they were formed, what they are expecting to accomplish, and how they are supposed to interact to achieve those goals. By showing dedication to the venture creation process and team tasks, NVT members signal their joint commitment, as illustrated by Michael when talking about how his NVT structured its teamwork, even though members were located in different countries:

*Molly is going to be moving to [city in the US] next year, so then, it is going to be much easier. She is moving for us to be focusing 100% on the company. However, now, we basically, I wake up very early in the morning, so we at least have time for a meeting every day. We have meetings in the morning on my time and in the afternoon on my time, small ones, 30 minutes, just scope and recap throughout the day. Then, we have two big meetings during the week, big ones, that can last from two to three hours, where we mostly plan the week, yeah.* (Michael, Team M)

The members of these NVTs also had certain attitudes about the venture creation process, which indicated that they were committed to their NVTs. As illustrated by the members of Team B and stated by Beatrice, “*We are the single team[i.e., a team of single people], so we do not have anybody waiting for us. So, we... can spend all night [working].*” Additionally, for example as stated by Adele, team members may give up other important parts of life so that they can contribute more to their NVT:

*We stated in our agreement that we should work from 9-17. I work at [name of workplace for part-time work] and need to go to work at 16 some days. [...] I do not want to go to work; I want to work with [the venture]. There is always so much stress when I have to leave for work. Even though I do not want to work, I am very glad that I have that job, and I do not want to lose it. I have a 20% position, which they normally do not give to anyone. They [the part-time work] were very kind to me and let me reduce my position.* (Adele, Team A)

Common to both VCPs in this study is that students needed to show their intention to learn and be involved in venture performances to be able to join the programmes. Hence, all the effective NVTs in this study succeeded in creating a joint commitment of learning and venture performance, where members are highly motivated to both learn and develop the venture, as explained by Henry (Team H): “*I really believe in our team because we are so eager after learning new things. We are not afraid of working with this technology-heavy case, even though it might fail in two years, because the competence that we will be left with will be so valuable anyway.*” Benjamin stated the following regarding the importance of having mutual ambitions for a venture’s future and why it was important to stress the eventual change in ambitions to fellow members:

*I think because we are so good at being open in communication when there are things we actually worry about, I believe that if the ambitions had changed, then we would have known. [...] even though they are big things, such as the overall ambition for the project. Because if you find out that their [co-members] ambition is 3, 5, or 10 years into this, and mine is half a year, then I would have communicated it. Because you should not waste other people’s time.* (Benjamin, Team B)

NVTs with members who contribute mutually to the team and can perform all tasks needed to achieve their goals are those that succeed in creating a joint commitment. For example, Team A developed a highly united NVT, where they understood that they were dependent on each other's contributions to make progress. As described by Adele, "*The three of us [Amelia, Adele and Alice] have very similar work tasks, but he [Arthur] has totally different work tasks. However, it means that we always need to be on the same page in each of our areas.*"

In contrast, NVTs that did not manage to create a joint commitment among members had to deal with members having a lack of commitment or asymmetry in members' motivations and ambitions. For example, in Team I, Ian experienced that he was putting forth considerably more work effort into the venture creation process than was Isaac: "*It is kind of unclear, but he will go two weeks without doing any work sometimes. In addition, I am working so hard, so it does not make sense to me.*" Ian felt that there was a lack of commitment from Isaac. Further, it is also evident that having low ambitions in terms of the venture creation process can reduce all the commitment of all NVT members. For example, Team E decided to formalize an agreement that accounted only for the market assessment of the business idea, in the hopes that the result would create an understanding as to whether they should continue with the venture creation process or not. Edward stated the following:

*I have thought about the agreement that we signed a week or two ago; there it is, black on white, what we are committed to and what the cooperation should be, which is that we should engage in the market assessment of this idea and that at some point, we will decide whether it is worth continuing. We would not have done this if we did not believe that there was something exciting here, but it is quite comforting to think that if that is our goal, then we need to find out if it has potential. (Edward, Team E)*

### ***Phase 3: Adapting to Structural Changes***

Effective NVTs focus on establishing a foundation for collaboration in the first phase and teamwork structuring in the second phase. In the third phase, they make sure that they are able



to adapt to structural changes (both external and internal) that could potentially challenge their existence. The findings indicate that the NVTs that master the phase of adapting to structural changes in an effective way are those that have developed resilience.

### *Resilience to change*

As the members of an NVT work together and progress through venture development, they encounter several structural changes, both externally and internally, that have the potential to lessen their achievements as an NVT. Examples of structural changes are members leaving the NVT, members taking a break from the project, incorporation of newly recruited members, and unforeseen events that affect NVT members or venture development. NVTs therefore need to strengthen their resilience in order to cope with these changes, and effective NVTs exhibit a high degree of flexibility and adaptability. For example, Team J agreed to allow NVT members to take a break from the project and was still able to continue the venture creation process:

*We made an agreement with my cofounders; we will have this time to work toward, 1 year or up to 16 months, to work toward an MBA [...] This year, basically, I did nothing for the start-up, just very specific things, like board meetings and some specific calls. However, I focused 100% on my experience here in the MBA. However, now that I am done, I am starting to work again on all this stuff, and I think that it [VCP 2] is really helping us in defining the strategy, which is the most pressing challenge that we face right now. [...] I am definitively moving back to Colombia; I will dedicate myself 100% to [the venture]. (Jonah, Team J)*

Effective NVTs also have members with a mindset directed towards doing what is best for the company, as illustrated by Olaf: *“I mean, there are always things we disagree on, but, that is, we always do what is best for the company, right?”* As Jonah added to his quote above, *“As an entrepreneur, you need to learn to give up a lot of things for the wellbeing of the company.”*

Predicting future resource needs can be a challenge for NVTs. For example, Team B experienced a change in the competence required. To fulfil this requirement, Bianca decided to leave the NVT so that the venture could devote resources to a new member:

*We have recruited a CTO who is responsible for the technical part and will develop the technical side further. He is an engineer. [...] Earlier, it was my role, being the CTO. I have always known that I will be replaced by an engineer because when we are to take the product from a prototype to a mass-produced product, my competence is not sufficient. (Bianca, Team B)*

It can also be difficult time when an NVT realizes that it is time for a member to leave, and that it must initiate these conversations, as illustrated by Kiara:

*So, I guess it is a more personal thing that has been challenging team dynamics. Originally, we were five, and now, we are three, and having those difficult conversations with your teammates, and sharing, you know like, “it is not working,” and so, having those difficult situations have been challenging. (Kiara, Team K)*

However, Team K was still able to adapt quickly to its new team structure. Team B, by contrast, let Bianca continue to be partly involved in the venture for some time, even after she had officially left the NVT, described by Beatrice as follows:

*It has been a very painful process, especially for Bianca, but it has been difficult for me and Benjamin as well, and it has taken a long time [...] It has been a process, but it has worked out very well. [...] Bianca is still with us now. She contributes here and there, until she graduates from [VCP 1], but it is a bit like, it is mostly just for fun, not so much heavy tasks. We somehow do not want to put anything more on her plate than what she herself reports that she wants to do since she is off the team. (Beatrice, Team B)*

Several NVTs also engaged in recruiting activities, both to increase their resource base and to replace members who had left. When Team O was in the process of recruiting a new member, they decided to have a trial period for the new member before giving away their equity, as described by Ottis:

*You can give equity only once you see how someone has worked because we had a whole testing process with him and he is really talented, and as a start-up, you really cannot pass up on talent like that. (Ottis, Team O)*

The analysis of effective teams that show themselves to be resilient to change indicates that these NVTs keep strengthening and maintaining the elements from the first and second phases, that is, mutual understanding, psychological ownership, decent decision-making routines, and joint commitment. Recurring themes among NVTs that were not able to overcome obstacles they faced were that they lacked those four elements. The result of a lack of resilience is often that the NVT breaks up and abandons the venture creation process. As illustrated by Team C, Clara's decision to leave created ripple effects and stress for the remaining NVT members and ended with the whole team splitting up:

*She [Clara] realized, while being in [summer school], that her passion was not there. Then, [name of company] stood still in a way, and I believe that led to that, at the end of the summer, both Clara and Celine were out. Then, I was left, and thought, God, I am going to show them that I can do this. [...] Then, they [the passive members] left a week later, but the GP was still on board and very eager for me to do this [...] but we have realized that the amount of resources that we need to put into this [...] is not worth it. (Caroline, Team C)*

## **Discussion**

A process model was developed from the analysis (Figure 1), illustrating the underlying mechanisms that explain how effective NVTs develop over time during the venture creation process. NVT development has been a topic of interest for years (Chang, Duck, & Bordia, 2006; Wheelan, 2009), and the most predominant team development models in the literature are the sequential stage models of Tuckman (1965; Tuckman & Jensen, 1977) and Wheelan (1994). Both models describe generic changes in a variety of processes, such as structure, communication, norms, leadership, trust and work performance, and are capable of explaining that teams go through different phases before they are able to perform in an effective manner (Miller, 2009). Our process contributes by outlining the phases that effective NVTs go through that facilitate student learning, which adds in-depth knowledge of internal NVT processes in

general (Jin et al., 2017; Klotz et al., 2014) and in the VCP context in particular (Haneberg & Aadland, 2019).

This study offers insights on how entrepreneurship educators can facilitate learning through NVTs. Prior experience with venture creation is deemed important for the progress and success of any NVT (Jin et al., 2017), but it is important to remember that NVTs in VCPs are composed of students who by definition lack experience. Our work suggests that that educators can help student NVTs make up for this lack of experience by giving them extra support and assistance during the three key phases of team development, regardless of the exact VCP context.

### ***The Process of Developing Effective NVTs***

The initial stages in group formation are a crucial phase for the eventual success of the NVT's venture, and this phase places a high demand on the team (Knipfer et al., 2018). This phase is called *establishing the foundation for collaboration*, and if the groundwork is carefully laid in this phase, the students will continue to learn and NVT will be more effective in its processes and venture over time (Knipfer et al., 2018). In this phase, effective NVTs develop psychological ownership through the exchange of thoughts and ideas about future collaboration, and having psychological commitment is important for project teams in entrepreneurship education (Haneberg, Brandshaug, & Aadland, 2018; Man & Farquharson, 2015). Team members also develop a mutual understanding (Chen, 2007) of the experiences, knowledge, and skills that each team member brings to the collaboration, and going through this process clarifies the contributions, expectations, and ambitions for the venture and subsequent teamwork (Chandler et al., 2005; Nahapiet & Ghoshal, 1998; Timmons, 1990). Psychological ownership and mutual understanding are crucial for developing effective student NVTs, because these two qualities can act as substitutes for the lack of financial ownership and thereby

help reduce some of the risk involved in creating a venture; they also strengthen students' commitments and attachments to the venture creation process and prevent students from abandoning the NVT.

In contrast, the absence of psychological ownership may harm NVT development and consequently negatively affect student learning. When a student cannot form a psychological ownership of the venture, it is unlikely that the student will be motivated, committed, and fully engaged, and it is possible that the student will miss out on important learning opportunities (Kolb, 1984; Wood, 2003). At the same time, it also be problematic when a student has too much psychological ownership, because then other students might feel shut out of ownership and not be dedicated to the NVT and the venture creation process.

The findings show that the students' learning experiences with venture creation were influenced by their NVT's level of mutual understanding. When NVT members fail to communicate their own competences and expectations, it becomes hard to do any work that requires the NVT to autonomously work to develop their venture (Innes, 2006). By creating a foundation for collaboration through psychological ownership and mutual understanding, effective NVTs ensure that they are well equipped for forthcoming teamwork.

After the first phase, NVTs are then able to enter the phase of *structuring teamwork*, in which roles and norms are created through the interactions of team members (Forsyth, 2009). When creating a good structure, effective NVTs engage in processes that allow for good decision-making routines, and members collaborate to develop joint commitment by dividing work tasks and responsibility, and by setting goals for venture development (Breugst et al., 2015). The findings show that effective NVTs also develop a joint commitment regarding learning and venture performance and that team members are aware of their mutual dependency.

Some NVTs devote minimal attention to developing a foundation for collaboration and jump directly into structuring their teams (Bird et al., 2012). Without understanding how each

member can and will contribute to the NVT, and without a feeling of attachment towards the decisions that are going to be made, it is difficult to structure teamwork well. The implication is that VCPs utilizing NVTs should organize NVT formation processes in a way that makes students develop mutual understanding and psychological ownership of the NVT and the venture before the teams embark on the venture creation process.

In this second phase, the findings also suggest an relationship between good decision-making routines and joint commitment (see the arrows between boxes in Figure 1). Effective NVTs that demonstrate a high degree of joint commitment seem to place more emphasis on creating decent decision-making routines and making sure that decisions are aligned with their overall goals and ambitions, thereby avoiding conflict (Chen & Wang, 2008). Team E is an example of an NVT that failed to develop good decision-making routines, and it postponed important and difficult decisions, such as choosing a leader or defining a value proposition. This postponement caused a lack of motivation and reduced commitment among members, because they did not have any clear vision to work towards and no one took overall responsibility for the coordination of the team and the progression of the venture. This finding reinforces the importance of structuring the NVT for performance (Coad & Timmermans, 2014; Cohen & Bailey, 1997; Drach-Zahavy & Somech, 2001). If students are not able to negotiate decisions and come up with a structure that can solve recurring problems in the NVT, taking an active part in a real-world venture will be especially difficult. In addition, if some NVT members struggle to adjust to other students rules, norms, and routines, it will be almost impossible to work in the team. NVTs that did not make proper adjustments often experienced a decrease in members' joint commitment, providing additional evidence for the observation that groups lacking commitment are more likely to fail in the NVT process (Huang et al., 2019).

After effective NVTs have managed to structure teamwork, they are better able to enter the third and crucial phase, which is that they now need to be able to *adapt to structural changes*.

New venture creation is a process of uncertainty, and NVTs are faced with unforeseeable changes throughout the process (Jiang & Tornikoski, 2019; Woo, Daellenbach, & Nicholls-Nixon, 1994). By mastering the first two phases, an NVT will have developed the capacity to recover quickly when changes occur in their teams, and the ability to mobilize their teams when unforeseen events happen. Hence, such NVTs are more resilient to change, and this resilience is needed to manage the uncertainty of new ventures and for NVTs to progress through all stages of venture creation. Conversely, if the students in an NVT are unable to adjust to changes, it will become challenging for them to continue to work on a real-life venture.

The findings suggest feedback loops from the second phase (structuring teamwork) to earlier phases. Developing an effective NVT is a dynamic process that potentially requires readjustments, and effective NVTs respond to changes in the early phases by adapting the foundation for collaboration and teamwork according to a new situation. The NVTs in this study that reached the third phase without establishing a foundation for collaboration or team structure often had difficulties adapting to internal and external structural changes. Such NVTs tended to find internal and external structural changes so demanding that they decided to abandon the venture creation process altogether. For example, in Team D, Dexter's strong psychological ownership prevented the other members from developing their own ownership, which in turn created incremental disruptions in the team, and disagreements and dissatisfaction influenced decisions and commitment. Team D split up after only six months together.

In sum, the analysis suggests that effective NVTs are able to adapt to internal and external structural changes and manage to continue the venture creation process even when some members leave the team. This finding agrees with the proposition that initial structuring can have imprinting effects on the development of a venture over time and can last well beyond the tenure of individual team members in the venture (Klotz et al., 2014). NVTs are dynamic entities, and this study demonstrates that key activities should be developed and maintained

throughout the team formation process, especially when changes in member composition occur. For students to have a good learning experience from all phases of new venture creation, VCPs should support and facilitate NVTs that have passed the team formation phase.

## **Conclusions**

This study explores how effective NVTs in VCPs develop. Prior research has emphasized the importance of creating an effective NVT for successful venture development (Kamm et al., 1990; Klotz et al., 2014; Lazar et al., 2020), for team members' learning in general (Decuyper, Dochy, & Van den Bossche, 2010), and for students' learning in particular (Haneberg & Aadland, 2019). Understanding the development of effective NVTs in VCPs is therefore key to facilitating increased learning effects in entrepreneurship education.

Numerous studies have contributed insights into NVT characteristics and outcomes, mainly through quantitative evidence (e.g. Jin et al., 2017; Steffens et al., 2012; Zhou et al., 2015) gathered in the formation stages (e.g. Chen, 2007; Ferriani et al., 2009; Zhou et al., 2017). However, few studies have identified emerging NVTs before they have passed through later stages (Forbes et al., 2006) or captured the internal processes that are needed for stepwise NVT progression (Klotz et al., 2014). Calls have also been made to increase our knowledge about what influences students' learning beyond entrepreneurial action, experience and reflection (Haneberg, 2019), e.g., about the influence of the context in which learning process takes place.

By conducting a real-time study of effective NVT development in VCPs, this paper helps address these omissions and contributes to the debate about effective NVT development in VCPs and how students learn from these processes. This research provides three key contributions.

First, this study captures a stepwise NVT progression (Klotz et al., 2014) that characterizes effective NVT development, independent of VCP structure (e.g., length of the programmes). The three necessary steps are *establishing a foundation for collaboration*,



*structuring teamwork*, and *adapting to structural changes*. The findings show that the ability to establish a foundation for collaboration and the structuring of teamwork in NVTs facilitates the development of resilience and thereby the capacity to persevere in the face of difficulties. Second, it contributes evidence about internal NVT processes (Jin et al., 2017; Klotz et al., 2014; Knight et al., 2020), and a process model explains the key activities undertaken by effective NVTs in each phase and illustrates how these processes are interrelated and build on each other. Third, it increases the knowledge of the internal processes that influence students' learning (Haneberg & Aadland, 2019), suggesting that students' learning experiences in VCPs depend on their ability to develop an effective NVT, which is decisively shaped by the students' abilities to pass through the three phases.

### ***Implications***

Given the importance of effective NVTs for student learning in VCPs, this study has important implications for entrepreneurship educators and for students involved in such programmes. Similar patterns were observed in two very different programmes, which suggests that the conclusions reached here are generally applicable to VCPs regardless of the academic level of the students involved or the length of the programme. The results from this study imply that progression through the three phases is important for effective NVT development and student learning, and that educators should pay attention to these three phases when facilitating team development in the VCP context. VCPs can strengthen learning in programmes by facilitating NVT structures in which students are encouraged to be highly involved in the initial phases before they progress. When joining teams, students should be aware of the learning value of this stepwise team progression: it is only by going through these steps that members can ensure that their NVT is effective, which will provide a good foundation for the success of their venture

and for their learning about the venture creation process. For that reason, students should actively discuss the key activities of effective NVTs during their venture journey in any VCP.

### ***Limitations and Future Research***

This study has limitations that provide opportunities for future research. First, little attention has been paid the support that NVTs receive in VCPs when the teams are being formed. Faculty, peers, and the entrepreneurial ecosystem all play an influential role in student learning in entrepreneurship education (Haneberg & Aadland, 2019; Kubberød & Pettersen, 2017, 2018) and likely contribute to students' NVT processes. Because group development has been found to be essential for student learning, future studies should constantly emphasize learning, where, for instance, Carol Dweck's theory of mindset (see e.g. Dweck, 2006) can be valuable for exploring development in various group contexts.

This study was based on in-depth qualitative data of 15 NVTs in two VCPs, and the findings could be tested at a larger scale and with a broader sampling strategy, including additional VCP structures.

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**Table I.** Overview of the venture creation programmes

|                            | <b>VCP 1</b>   | <b>VCP 2</b>   |
|----------------------------|--|--|
| <b>Country</b>             | Norway   | United States  |
| <b>Founded in</b>          | 2005   | 2010   |
| <b>Degree</b>              | MSc  | Summer program   |
| <b>Length</b>              | 2 years  | 10 weeks   |
| <b>Cohort</b>              | Approximately 35   | Approximately 20   |
| <b>Requirements</b>        | Minimum bachelor's degree in:<br><i>Social science</i><br><i>Humanities</i><br><i>Economics</i><br><i>Scientific Subjects</i><br><i>Engineering</i><br>or 3 year of a master degree in technology  | Undergraduate and graduate students in:<br><i>Engineering</i><br><i>Business</i><br><i>Arts</i>  |
| <b>Program structure</b>   | <div>1<sup>st</sup> Semester<br/><i>Strategic management</i><br/><i>Idea search and market assessment (Feasibility study)</i><br/><i>Specialization Course x 2</i></div> <div>2<sup>nd</sup> Semester<br/><i>Technology Based Business Development</i><br/><i>Industrial Marketing and International Business</i><br/><i>Experts in Teams</i><br/><i>Specialization Course</i></div> <div>3<sup>rd</sup> Semester<br/><i>Specialization Project</i><br/><i>Specialization Subject</i><br/><i>Specialization Course</i></div> <div>4<sup>th</sup> Semester<br/><i>Master thesis</i></div> | <div>Week 1-2<br/><i>Set goals, advisor match, lean canvas, determine needs/gaps</i></div> <div>Week 3<br/><i>Product</i></div> <div>Week 4<br/><i>Sales</i></div> <div>Week 5<br/><i>Marketing</i></div> <div>Week 6<br/><i>Legal</i></div> <div>Week 7<br/><i>(No courses)</i></div> <div>Week 8<br/><i>Fundraising</i></div> <div>Week 9-10<br/><i>Showcase</i></div> |
| <b>Ideas from</b>          | The student themselves<br>Alumni<br>TTOs<br>University researchers<br>Partner network  | The students themselves  |
| <b>NVT formation</b>       | Self-selection during program  | Self-selection before program  |
| <b>Network</b>             | Faculty's network<br>University research<br>The alumni network<br>Mentors<br>Lawyers   | Faculty's network<br>University research<br>The alumni network<br>Mentors<br>Investors   |
| <b>Available resources</b> | Incubator at campus<br>Dedicated mentors<br>Courses and lectures<br>Pre-seed funding<br>Prototype facilities<br>Laboratories   | 24/7 workspace<br>Dedicated advisors<br>Expert speakers/mentors<br>Free housing<br>Access to local start-up community  |



**Table II.** Overview of cases

| VCP          | Cases         | Members                                    | Background   | Position  | Industry            | Country |
|--------------|---------------|--|--|---|---------------------|---------|
| <b>VCP 1</b> | <b>Team A</b> | Amelia<br>Adele<br>Alice<br>Arthur         | Nurse<br>Finance<br>Business<br>Software engineer  | Co-founder<br>Co-founder<br>CEO<br>Programmer       | Health and Fitness  | Norway  |
|              | <b>Team B</b> | Bianca<br>Beatrice<br>Benjamin<br>Bernhard | Dramaturge<br>Business<br>Business<br>Engineer   | CTO/Customer interactions<br>CMO<br>CEO<br>CTO      | Electronics         | Norway  |
|              | <b>Team C</b> | Celine<br>Carla<br>Caroline                | Political science<br>Social studies<br>Machine engineer  |   | Medicine equipment  | Norway  |
|              | <b>Team D</b> | Daniel<br>Dennis<br>Dexter<br>David        | Biotechnology<br>Technology design and management<br>Food production technology<br>Economist and mathematics |   | Food science        | Norway  |
|              | <b>Team E</b> | Eva<br>Edward<br>Edgard<br>Emilio          | Chemical engineering<br>Journalism<br>Logistical engineering<br>Economics/Psychology                         |   | Internet of things  | Norway  |
|              | <b>Team F</b> | Frank<br>Fred<br>Fabian<br>Finn            | Engineer<br>Business<br>Craftsman  | Product responsible<br>CEO<br>Idea owner<br>Partner | Product development | Norway  |
|              | <b>Team G</b> | Greg<br>Gita                               | Software engineer<br>Business  | CTO<br>CEO  | Art                 | Norway  |
|              | <b>Team H</b> | Hanna<br>Henry<br>Howard<br>Harry          | Physics and mathematics<br>Engineering<br>Marine Technology<br>System developer                              |   | Marine Technology   | Norway  |

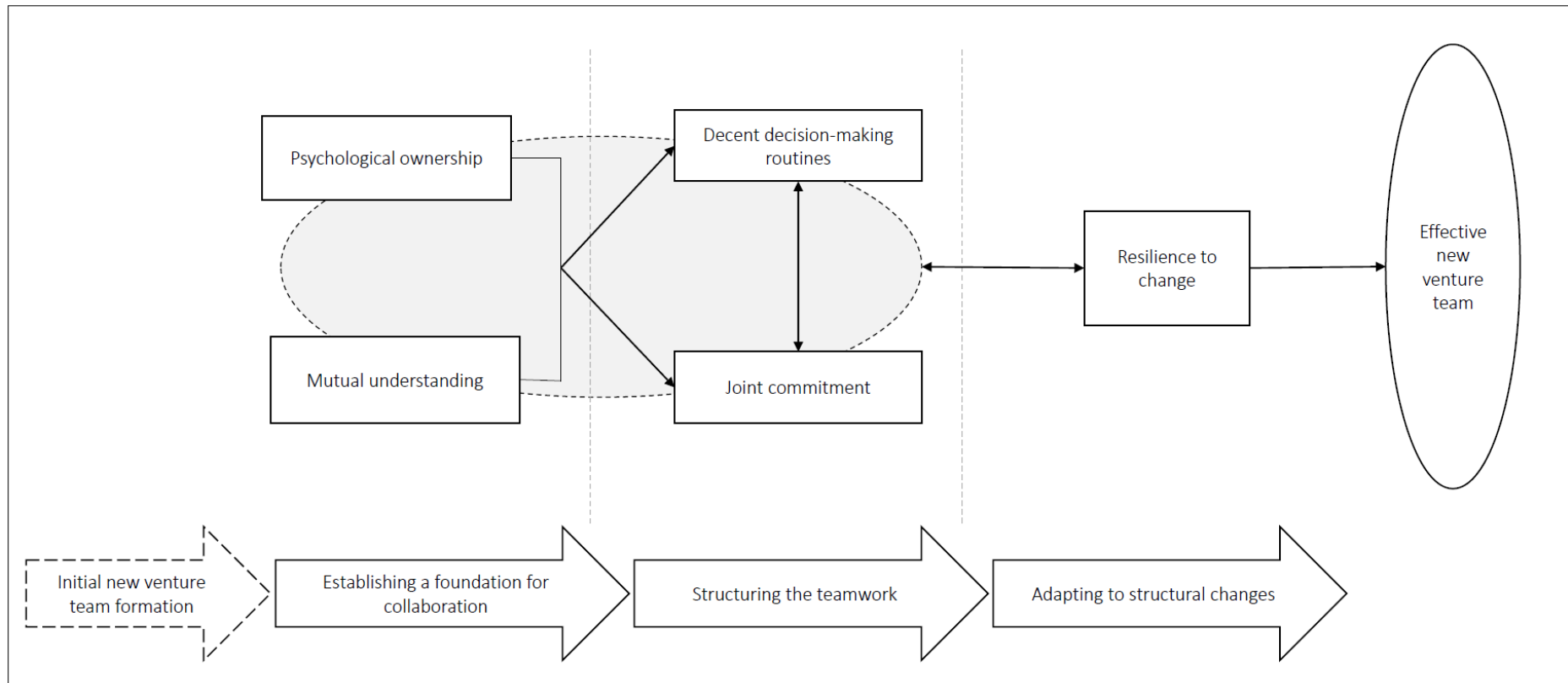
|              |               |   |  |   |   |                            |
|--------------|---------------|---|--|---|---|----------------------------|
| <b>VCP 2</b> | <b>Team I</b> | Ian<br>Ivanka<br>Isac   | Software development and<br>business<br>Design                             | CEO, co-founder<br>Co-founder   | Rental services / Tech                  | United States              |
|              | <b>Team J</b> | Jonah<br>Jack<br>John   | Business<br>Law and Economics  | CMO, co-founder<br>CEO, co-founder<br>CTO   | Health care & Public services /<br>Tech | Colombia                   |
|              | <b>Team K</b> | Keira<br>Kelly<br>Kevin<br>Kristen<br>Keith<br>Kristian                 | Business<br>Business<br>Data Scientist<br>Data Scientist<br>Data Scientist | COO, co-founder<br>CEO, co-founder<br>CTO, co-founder<br>(earlier co-founder)<br>Developer<br>Developer   | Education                               | United States              |
|              | <b>Team L</b> | Linda   | Educator and business  | CEO, Founder  | Service company                         | United States              |
|              | <b>Team M</b> | Michael<br>Molly<br>Marty<br>Matthew                                    | Technology Entrepreneurship,<br>Design<br>Business<br>Engineer             | CEO, co-founder<br>CMO, co-founder<br>Backend engineer<br>Front-end engineer  | Food industry                           | United States &<br>Lebanon |
|              | <b>Team N</b> | Nina<br>Nicole<br>Nadia<br>Natasha<br>Nancy<br>Nelly<br>Natalie<br>Neil | Business<br>Positive Psychology<br>Personal trainer/Nutrition coach        | CEO, founder<br>Community Building<br>Health and Wellness Expert<br>Content Writer, intern<br>Partnership Lead<br>Email marketing<br>Media and Brand Strategist<br>Technology Advisor | Fitness and nutrition                   | United States              |
|              | <b>Team O</b> | Olaf<br>Ottis<br>Omid<br>Oleg   | Business<br>Engineer   | CEO, co-founder<br>CTO, co-founder<br>Chief Public Health<br>representative<br>International industry expert  | Customer product                        | United States              |

**Table III.** Overview of data material

|                                | VCP 1  | VCP 2                 | Total |
|--------------------------------|--|-----------------------|-------|
| <b>Participants</b>            |  |                       |       |
| <i>Students</i>                | 25   | 11                    | 36    |
| <i>Faculty</i>                 | 3  | 1                     | 4     |
| <b>Interviews</b>              | 80   | 18                    | 98    |
| <i>Individual interviews</i>   | 60   | 15                    |       |
| <i>Group interviews</i>        | 17   | 2                     |       |
| <i>Interviews with faculty</i> | 3  | 1                     |       |
| <b>Time</b>                    | Dec 17<br>March 18<br>Oct 18<br>Dec 18<br>March 19 | June 18<br>Nov/Dec 18 |       |

**Table IV.** Coding structure

| 1 <sup>ST</sup> ORDER<br>CATEGORIES  | 2 <sup>ND</sup> ORDER<br>THEMES     | OVERARCHING<br>DIMENSIONS                          |
|--|-------------------------------------|--|
| <ul style="list-style-type: none"> <li>- Clarification of expectations</li> <li>- Synchronize the new venture team members</li> <li>- Comprehension of how each member contribute into the team</li> <li>- Understanding what is best for the company</li> </ul>   | → Mutual Understanding →            | <b>Establishing a foundation for collaboration</b> |
| <ul style="list-style-type: none"> <li>- Dedicated to the new venture creation process</li> <li>- Willing to sacrifice for the venture and team</li> <li>- Invested in the start-up process</li> <li>- Creating a feeling of togetherness</li> <li>- Pride towards the new venture and the team</li> </ul>   | → Psychological ownership →         |  |
| <ul style="list-style-type: none"> <li>- Allocating responsibility</li> <li>- Develop trust to co-member</li> <li>- Balancing unstructured and overlapping roles</li> <li>- Good discussion processes within the NVT</li> <li>- Value all members opinions</li> </ul>  | → Decent decision-making routines → | <b>Structuring the teamwork</b>                    |
| <ul style="list-style-type: none"> <li>- Motivation to be a part of the team and venture creation process</li> <li>- Willing to take risk</li> <li>- Set long-term goals for the team and venture creation process</li> <li>- Ambitions for the ventures future.</li> <li>- Mutual contributions into the team</li> <li>- Operate all tasks</li> </ul> | → Joint Commitment →                |  |
| <ul style="list-style-type: none"> <li>- Recover quickly after changes in members</li> <li>- Cope with unforeseen events</li> <li>- Exhibit flexibility when needed</li> <li>- Team maintenance</li> </ul>   | → Resilience to change →            | <b>Adapting to structural changes</b>              |



**Figure I.** The development of effective NVTs