

PAR, a new way of doing research

An evaluation on PAR, used during the SevenSenses Challenges

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SEVEN
SENSES

Tackling complex challenges. Together.

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List of abbreviations

AR	Action research
EA	Enterprise architecture
MEM	Method evaluation model
PAR	Participatory action research
SME	Small and medium-sized Enterprise
I&C to H&B	Illness & Care to Health & behaviour Challenge
DHHS	Department of Health and Human Services.

1. Summary

Context

Academic research has the goal to discover, examine and explain scientific, social, philosophical, or economic phenomena. Scientists conduct research and apply or implement their experiences to serve society, the economy, and the environment. Currently, the world is faced with a growing number of issues with increasing complexity—problems i.e., globalization, climate change, women's rights, and human empowerment. With increasing societal issues, in scope and complexity, the need for solutions has also increased. Traditional research method frequently fails to connect with the needs of society (Eelderink, 2021). In recent years, there has been an increasing interest in a new type of research approach: Action research (de Villiers et al., 2007). Action research is designed to be as much as possible a cooperative learning process of the researcher and participant (society). Based on the belief that science can never be value-free, the research objectives and values are jointly determined, and an attempt is made to arrive at valid and usable knowledge about them intersubjectively (Tromp, 2006). The increasing interest in AR is rising because increasingly complex issues in society require research approaches that can cross disciplinary boundaries. However, in academia, action research is having a hard time. Scientific disciplines inspired by action research are disappearing. Crotty (1998) argues that this approach is not enough for critical theorists who see the voices of the researchers in these accounts too much. Universities prefer not to involve themselves in such complex people-based research. One of the AR approaches is participatory action research (PAR). The approach believes that the researchers and the local community will take action to understand and improve the problems and situations in which they find themselves by gaining more control over their lives through the construction and application of knowledge (Baum, 2006). According to Luanganggoon (2006, p. 9), there is no reason why action research approaches should not be used optimally. Therefore, this study will obtain more knowledge and insights regarding PAR. The research question will be: *'Is the PAR approach, conducted during the SevenSenses Challenges considered to be successful?'* This study is commissioned by the SevenSenses institute. The goal of the institute is to tackle global complex societal issues by just using PAR. Their vision is of a world where people are empowered to tackle community issues together. By using PAR, local people and involved stakeholders become empowered.

Methodology

To test the success of PAR, the method evaluation model (MEM) is used. The MEM's primary contribution is that it considers two distinct facets of a method's "success": actual efficacy and perceptions. When assessing PAR, both components must be considered (Abrahão et al., 2009). A

qualitative study was performed with semi-structured interviews among participatory action researchers, who joined one of the four Challenges this study focuses on; The Women's Empowerment Challenge, The Healthy Teeth Challenge, The Cooking Challenge, and The From Illness & Care to Health & Behaviour Challenge.

Results

Based on the MEM model, it appeared that PAR is successful. PAR is actual efficient; SevenSenses has succeeded in creating a clear and easy-to-understand training. Which helps reduce the effort to perform PAR during the Challenges. Another unique aspect was the cooperation with the local researcher, which also reduced the effort to perform PAR. PAR is actual effective, Not only does PAR achieve its objectives it also creates empowerment and ownership among the local community. PAR is not perceived as effortless in all aspects, but it is perceived as clear and easy-to-understand. They even say *'it was one of the most beautiful experiences of their lives.'* The participants were willing to work hard because they were empowered, satisfied, and got a lot of energy back from the local people. PAR is perceived to be useful. The participants believe that they would not have achieved the intended objectives without the use of PAR, as opposed to traditional research for example. PAR is intended to use in the future by the participants and according to Moody (2006), for a method to be successful, *'it must not just enhance task performance, but also people's willingness to use it.'*

Conclusion & Discussion

The knowledge obtained during the PAR Challenges represented local communities defining their own experiences, needs, and ways of representing themselves. This study showed that the Challenges exemplify what can be achieved using a PAR approach. While not without its Challenges and complexities, SevenSenses has implemented PAR processes to support important change processes for communities and the stakeholders involved. PAR gives a voice to communities in identifying the factors impacting their social and emotional well-being and encourages them to see themselves as agents of social change. The researcher wants to show that PAR can contribute to the scientific world, by connecting with the needs of society.

To improve reliability in future research, more interviews could be conducted. When more interviews are conducted, data saturation is more likely to be fulfilled. In future research also local researchers could be involved to prevent bias. Furthermore, to improve reliability and to ensure triangulation, a mixed-method approach could be used in follow-up studies.

2. Introduction

Contemporary society is becoming more complex and a variety of issues i.e., globalization, climate change, women's rights, and human empowerment are becoming entangled. These complex issues have been tackled for years by "traditional research". In the literature, traditional research is described as positivist research, which can entail both qualitative and quantitative research (Kock, 2005). A positivist researcher has the idea that there is just one universal truth and does so to assert its importance and emphasize impartiality, measurement, objectivity, and repeatability (Aliyu et al., 2014). This suggests that research should concentrate on what is observable and measurable. Traditional research concentrates on gaps in the literature, sets a hypothesis, and aims to test the hypothesis through the analysis of data. The goal is to write a report that outlines their findings and provides recommendations (McKernan, 1988). Traditional research method frequently fails to connect with the needs of society (Eelderink, 2021).

In recent years, there has been an increasing interest in a new type of research approach: action research (AR) (de Villiers et al., 2007). AR aims to change a practical situation in such a way as to create the desired situation, as wished by the involved parties themselves (Eelderink, 2021). AR allows not only action researchers but also participants to view each other's perspectives and qualities and discover how they can empower each other. This type of qualitative research is conducted as much as possible outside of experimental laboratories; it must be conducted under "real-life" conditions to determine the actual impact of theoretically efficient and relevant interventions. Because society's increasingly complex issues require research approaches that can bridge disciplinary boundaries, between theory and practice, such as action research, there is a growing interest in AR (Smith, 1997). According to Bogdan et al. (1992), AR is a widely used method within the social healthcare field. Carr & Kemmis (1986, p. 209) stated that '*Action researchers... are inclined to see the development of theory or understanding as a by-product of the improvement of real situations.*'

Even though AR is a popular approach in the field of social healthcare, universities prefer not to engage in such dynamic and complex "in vivo" research (Tromp, 2006). In academia, action research is having a tough time. Scientific disciplines inspired by action research are disappearing, action research programs are no longer counted in the academic ranking system, and PhD students are having difficulty obtaining approval for dissertation research using action research methodology. However, there is a greater need in society for research with a hands-on component. Action research focuses on democratization and empowerment of society's marginalized groups in particular. In this way, action research situates itself outside the framework of positivism (Tromp, 2006)

According to Luanganggoon (2006, p. 9), there is no reason why action research approaches should not be used optimally. However, this is the reality: conventional research rules are used, and there is no willingness to change the rules. Unfortunately, changing this is not as simple as suggesting. Therefore, in conducting this study, the researcher wants to test the value of AR. And, in particular, PAR. PAR seeks to understand and improve the world through change. It assumes that the involved participants will take action themselves to understand and improve the problems and situations in which they find themselves. Where action research still focuses on its deliberative goal, PAR focuses more on its emancipatory role. This research is commissioned by the SevenSenses institute.

SevenSenses is founded by Madelon Eelderink, who started the institute in 2013. The goal of SevenSenses is to tackle global complex societal issues by just using PAR. Their vision is of a world where people are empowered to tackle community issues together. Local communities and stakeholders are empowered when PAR is used. Together, they want to co-create sustainable solutions to tackle complex issues by using local talent, manpower, and materials. Consequently, the local community creates new interventions that tackle the problem at its roots, together with the participatory action researchers (who will be called participants in this study) (Seven-senses.nu). Tackling these complex problems is done in so-called Challenges. These Challenges take 3 months and take place all over the world, e.g., in Uganda, Kenya, South Africa, Saba, and the Netherlands. Even though SevenSenses sees the positive outcomes of the Challenges, they never conducted an in-depth analysis on the success of PAR during the SevenSenses Challenges. Therefore, this study aims to obtain more knowledge and insight regarding PAR during the SevenSenses Challenges, by evaluating four Challenges, using the 'method evaluation model', which takes two distinct facets of a method's "success": actual efficacy and perceptions into account. Therefore, the research question will be, *Is the PAR approach, performed during the SevenSenses Challenges, considered to be successful?*

3. Contextual background

This chapter will address the context of this study. First, the purpose of the SevenSenses institute will be explained. Second, for data collection the researcher will focus on four SevenSenses Challenges during this study: The Women's Empowerment Challenge in Kenya; the Healthy Teeth Challenge in South Africa; The Healthy Cooking Challenge in Uganda; and From Illness & Care to Health & Behaviour in the Netherlands. Finally, a brief stakeholder analysis will be provided.

3.1 SevenSenses

SevenSenses' vision is one of a world where people can tackle community issues together. The work of SevenSenses, which conducts participatory action research globally, is focused on facilitating locals and involved stakeholders, to create a world they want to live in. By using local knowledge, talents, manpower, and materials local people get empowered (seven-senses.nu). By working together, they speak of co-creation.

3.2 SevenSenses Challenges

The SevenSenses Challenge is a 12-week PAR education program for professionals, post-graduates, and students who want to take part in a field PAR while also concentrating on their personal growth. These Challenges are always based on community issues as defined by the local citizens. The problems could be linked to poverty, public health, nature, or human rights. The concept of the Challenge is unique in that it is intended to focus solely on local needs rather than donor demand. The Challenges have a dual goal. The first is that the Challenge attempts to empower local citizens to identify the best-suited local assets to address the issue at hand, increasing their independence from typical paternalistic western help. Second, the Challenge provides students and professionals with the opportunity to see the impact of PAR in action and to improve professionally and personally (seven-senses.nu).

3.3 Demographics

SevenSenses works on a variety of projects in a variety of countries, including Uganda, Kenya, South Africa, Brazil, Saba, and the Netherlands. This study will focus on four projects, all based on public health.

3.3.1 The Women's Empowerment Challenge

The first Challenge is "the Women's Empowerment Challenge", which is a PAR project that developed from the results of another Challenge: The Female Rights Challenge. What makes this study so remarkable is that it began with a discussion of female circumcision and the rights of women

to make their own decisions about this. However, through PAR, local women realized that economic independence was more important as a first step toward being able to make independent decisions concerning female circumcision in general. As a result, the participatory action researchers decided to change the research design and look at how the women were enhancing themselves economically, what the benefits and barriers were, and if female circumcision was one of the barriers (Livaha et al., 2017).

3.3.2 The Healthy Teeth Challenge

The second Challenge is “The Healthy Teeth Challenge”. The Dental Wellness Trust (2016) states that about 80% of the children in African townships have tooth decay, and therefore, a toothache is one of the most important reasons for school absenteeism. Just two dentists serve the whole township of Mfuleni in South Africa, which has a population of nearly 100,000 people. Children in townships have never had a personal toothbrush and most share theirs with their families (Dental Wellness Trust, 2016). This PAR project was set up to study the oral health of schoolchildren from Mfuleni township, aged 0-12. They wanted to discover the root causes and outcomes of poor oral health in the community and more effectively involve community members in building solutions to this social issue that affects them and bring knowledge to the people about oral health (Grasveld, 2017).

3.3.3 The Healthy Cooking Challenge

The third Challenge is “The Healthy Cooking Challenge”, which is a project conducted in 2015 in a township in Uganda. The PAR was about pulmonary infections, which is a big problem in Uganda and causes many deaths. Every year, nearly 4 million people die prematurely from illnesses caused by household air pollution caused by inefficient cooking practices involving polluting stoves paired with solid fuels and kerosene. 45% of all pneumonia deaths are in children less than 5 years old because they play and sleep in the same room as the polluting stoves (WHO, 2022). This study aims to facilitate local stakeholders in co-creating and executing actions that help prevent pneumonia. The Healthy Cooking Challenge recently won the Albert Schweitzer Prize for humanitarianism, which is a prize given to people who made exemplary contributions to humanity and the environment.

3.3.4 From Illness & Care to Health & Behaviour Challenge

The last project this study will focus on is "From Illness & Care to Health & Behaviour Challenge" (I&C to H&B). The study started in 2019 and was conducted among citizens with obesity in a town called Veendam. This project aimed to find a way to help the citizens of Veendam take control of their health and behaviour positively so that the focus of care providers and care recipients is no

longer on illness and care, but on health and behaviour. During the PAR the focus shifted more to type 2 diabetes, because it turned out that this is one of the biggest causes of obesity, but also includes people with, for example, cardiovascular disease. The goal was to enable Veendam residents who suffer from lifestyle-related chronic diseases to take control of their own health and behaviour (Peters, 2022).

3.4 Stakeholders

The people who are working on these projects are freelancers from a wide range of different sectors. The team of participatory action researchers executes PAR projects commissioned by non-governmental organizations and the public sector.

In this study, the participatory action researchers are important stakeholders because they conducted the SevenSenses Challenges. The participants working on a project have different backgrounds, e.g., teachers, dental hygienists, anthropologists, social workers, psychologists, students, etc. These participants initiate their projects, with their specific backgrounds and experiences. Other important stakeholders are the researchers from the local community, who are an important factor during the PAR Challenges. The participants collaborate with one or two local community researchers, to achieve the best approach for the issue at hand. These 'local researchers' are people who are well-versed in the community's cultural practices and traditions and know how to approach the local community and usually live in the community themselves (seven-senses.nu).

3.5 SevenSenses Foundation

After the success of the SevenSenses Challenges, the need for fundraising increased. Although commercial funds were used to fund some of the Challenges, more funding was required. Based on this, the SevenSenses Foundation was established in 2015 to raise funds to assist in the global application of PAR (SevenSenses Foundation).

4. Theoretical background

To embed this research in a suitable theoretical context, the concepts relating to the objective will be discussed in this chapter, and the theoretical model will be explained from there. Finally, the sub-questions are presented, with these concepts and the model serving as the foundation for this research.

4.1 Positivism

It is possible that the word 'positivism' implies that it is 'positive,' but it does not suggest 'good,' but rather 'supposed.' This is in contrast with 'natural,' which refers to content produced from nature, as in 'natural law' (Khanna, 2014). On the contrary, positivism aims to apply theory to the research context to determine how applicable it is. Aliyu et al. (2014) argue that a positivist researcher has the idea that there is just one universal truth and does so to assert its importance and emphasize impartiality, measurement, objectivity, and repeatability. This suggests that research should concentrate on what is observable and measurable. This evidence-based approach tends to link positivism to quantitative research, where variable measurement and concept design the basic premise is (Rhodes et al, 2013). Confirmatory analysis, quantitative analysis, laboratory experiments, and the deduction approach are common methodologies used by positivist researchers (Olesen, 2004; Ryan & Julia, 2007). The ultimate goal is to publish a report that summarizes their findings and recommendations. Even though the results and outcomes gotten using experimental and scientific methods may give important insights and knowledge into the natural world, those results may perhaps be short of external validity. That is to say, the studies performed in the laboratory may not be similar in the outside world, where a much larger number of elements or factors act together. A positivist who handles complex social problems, for instance, health and environmental issues, could be concerned more with the symptoms of a problem rather than with the fundamental underlying problems. For this reason, positivist recommendations tend to treat and handle the symptoms sooner than the source of the situation. Nissen (1985) and Orlikowski et al. (1991), argued that positivism appears to be a weak or lacking foundation for research and investigation in their cases. Subsequently, there exists the claim that positivism is self-contradictory because it is not by itself a natural happening independent of the viewer or observer and associated problems with the ultimate underpinning of positivism (Quine, 1980).

4.2 Interpretivism

The post-positivist era saw the rise of interpretivism, a more alternative theoretical commitment, especially in social science inquiry, including healthcare (Grant & Giddings, 2002). Interpretivism is the opposite of positivism and is therefore known as anti-positivism or non-positivism (Flick, 2014; Rhodes et al., 2013; Aliyu, 2014), and "non-positivism" research was not recognized until the early

2000s Aliyu (2014). Interpretivism argues that there is no such thing as a universal truth and that knowledge is subjective, based on people's experiences. This type of investigator understands and interprets information based on his or her interpretation. Researchers can never be fully detached from their values and beliefs, and therefore how they collect, evaluate, and analyse evidence will eventually be influenced by them. Interpretivists will immerse themselves in the research environment and strive to examine the 'meanings' of events from the perspectives of the participants (Morrison, 2002). Therefore, it is a 'people-based' approach that recognizes the research's integration within the research environment and therefore qualitative in nature. The methodologies frequently used by interpretivist researchers are field experiments, exploratory analysis, induction approach, and in-depth interviews (Ogilvy, 2006; Tugendhat, 2006). This will provide the researcher with a rich and in-depth description of the research environment as a unique context. (Rhodes et al., 2013). Crotty (1998) argues that this approach is not enough for critical theorists who see the voices of the researchers in these accounts too much.

4.3 Traditional research

Research that follows the principles of positivist inquiry usually starts with a set of theoretical assertions or hypotheses and tries to test those propositions or hypotheses via empirical data analysis. Traditional research is described in the literature as positivist research, which can entail both qualitative and quantitative research (Kock, 2005). These scientific researchers concentrate on gaps in the literature, set a hypothesis, and aim to test those hypotheses through the analysis of data. The final goal is to publish an article that highlights their findings and recommendations (McKernan, 1988). Traditional research method frequently fails to connect with the needs of society (Eelderink, 2021). Traditional research is conceptualized and set up as though there is no change after experimentation starts, or during the life of the innovation, which is obviously not the case. Furthermore, attempting to manipulate variables in the context of naturalistic behaviour is equivalent to restricting the scope, variety, and inventiveness of human reaction (McKernan, 1988).

4.4 Action research

Kurt Lewin (1951) is credited with developing the method of AR, which was later further developed by the Tavistock Institute of Human Relations in London. AR was used as a research method for gaining knowledge and treating psychological and social disorders caused by battlefields and prisoner-of-war camps during WWII (Baskerville & Woodharper, 1996). The AR process was later described by Susman et al. (1978) and Clark (1972). One of the important differences between AR and most other research methodologies is that AR is focused on understanding the problems that arise in practice and at the same time finding a practical solution to these problems, taking action (Anderson & Herr, 2005). This is achieved through the collaboration of action researchers as practitioners share

their knowledge and experience to arrive at solutions together. Unlike other research methods, it offers practical solutions for positive change in practice and society. On the other hand, there is literary criticism, because the action researcher is personally involved in the research, becomes known with the problems, and builds a personal relationship with the practitioners. When outcomes are left unchecked, according to Kock (2005), they are filled with subjectivity. The researcher tends to become too involved to the point where personal biases enter the examination of the findings.

4.5 Participatory action research

PAR is one of the forms of AR. Unlike AR, which has a deliberate goal, PAR has a more emancipatory goal. PAR aspires to change the world to better understand and improve it. It assumes that the researchers and participants will take action themselves to understand and improve the problems and situations in which they find themselves. PAR requires the researcher to understand the history, culture, and local context. The PAR approach should be empowering and lead to people taking more control of their lives by constructing and using their knowledge (Baum, 2006; UKEssays, 2018). According to Tsey et al. (2007), for an empowerment approach to be successful in reducing problems in the community, the solutions must be driven from within a vulnerable, disadvantaged community. A key aspect critical for the success of the project implementation and outcomes is to ensure that each local community drives its processes of identifying; ownership of any problems and vulnerabilities (Dudgeon et al., 2017). PAR differs from traditional research in a few ways. First, PAR focuses on research to enable action. Action is achieved through a reflective cycle in which participants collect and analyse data, and then determine what action should follow (Baum, 2006). Second, PAR pays careful attention to power relations. It argues that the participant has as much power and influence as the researcher, which will blur the line between them. The participants become partners in the entire research process and together they co-create solutions (Baum, 2006). Third, besides cooperating with the community, there is cooperation with a local researcher from the community. The application of PAR processes by local community researchers enables a large amount of information and insights gained locally to be shared at the community level and to identify the types and extent of change that communities both want and need. In the study of Dudgeon et al. (2017) local researchers described positive experiences from all aspects of the PAR approach. This started with developing the project principles, attending the training, and then facilitating workshops and discussions at a local level as well as reporting and sharing the findings back to the local community involved in the focus groups, and to key local stakeholders, *'they reported on all of this as very beneficial with many describing it as 'affirming', 'inspiring', and 'beyond their imagining' to be able to work like this with their communities'* (Dudgeon et al., 2017, p.6).

4.6 PAR stages

PAR is an approach of continuous practice and reflection. The PAR process is usually carried out in a cyclical pattern of orientation, system exploration, solution identification, co-creation, formalization, monitoring, and evaluation as seen in figure 1. The different stages will be explained below.

- *Orientation*: this stage consists of exploring the problem and building rapport with the local community. This is also where the PAR design is discussed with the stakeholders.
- *System exploration*: this stage consists of data collection, by getting clear what the ‘gap’ is between the current situation and the desired situation of the stakeholders through interviews
- *Solution identification*: this stage consists of visualizing the results and reflecting this to those involved. This is often done through focus groups.
- *Co-creation*: this stage consists of the development of the prioritized solution approaches into concrete action plans. It is decided who will take which role and duty in carrying out the action plan based on the skills, interests, and objectives of those involved.
- *Formalization*: this stage consists of the implementation; the first PAR activities will start.
- *Monitoring*: this stage consists of observation of the activities; this can be done by the researcher (not controlling/checking) or the stakeholders themselves.
- *Evaluation*: this stage consists of evaluating the process of PAR, this takes place towards the end of the process, both numerical as perceptions of the stakeholder. It also considers scaling up and spreading successful initiatives to other settings (Eelderink, 2021).

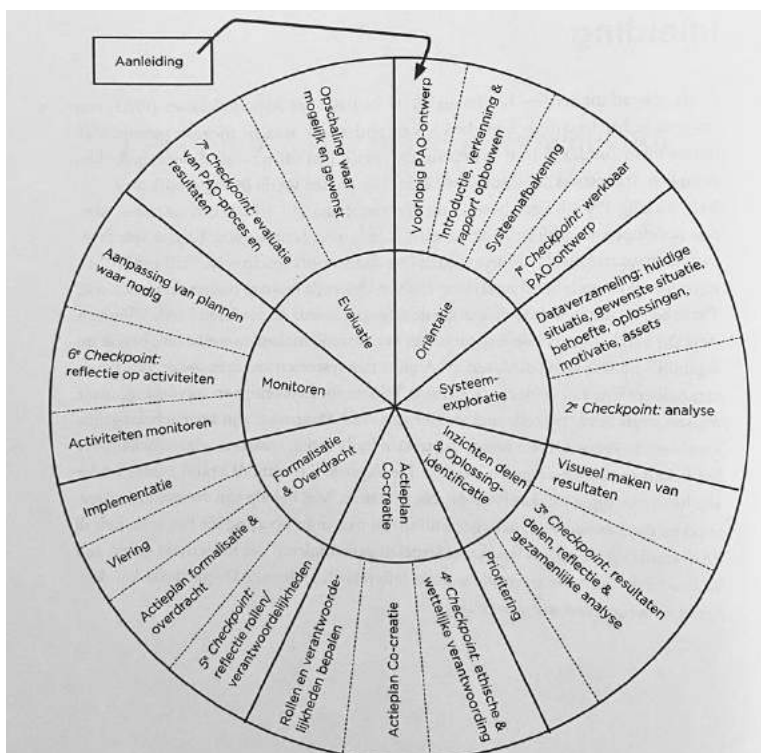


Figure 1. PAR process, with all her stages and associated components. (Eelderink., 2021)

4.7 Conceptual framework

To answer the research question, "is PAR, performed during the SevenSenses projects, considered to be successful?" a conceptual framework was chosen based on evaluating a method (figure 2). It should be noted that more possible frameworks will fit the research objective, but in this study, the method evaluation model (MEM) by Moody (2003) was adopted and will be further explained. This model was used in a study by Abraho et al. (2009). Their study aimed to bridge the gap between the software; small and medium-sized enterprises (SMEs) and enterprise architecture (EA). To evaluate the EA and SME software, the study used MEM. MEM is based on the Technology Acceptance Model (TAM) by Davis (1989) and Methodological Pragmatism by Rescher (1977). Davis introduced the TAM, a well-known and widely used model related to technology adoption in which the user acceptance of technology is predicted. Methodological pragmatism holds that methods have no truth value and only pragmatic value. A method does not describe any external reality, so it cannot be true or false, only effective or ineffective.

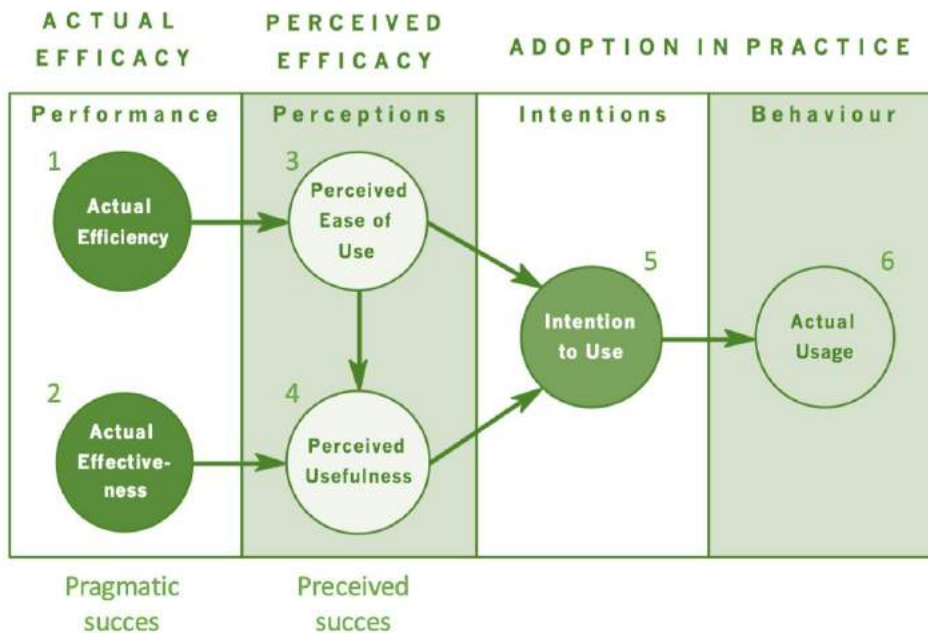


Figure 2: Method Evaluation model (Moody, 2003)

The main contribution of the MEM, compared to alternative models, is that it incorporates two different aspects of method success: performance and perceptions of the user. This means that the success of a method depends not only on whether it is actually efficient but also on whether the users perceive it to be efficient; the willingness to use the method. According to Moody (2006), for a method to be successful, 'it must not just enhance task performance, but also people's willingness to use it.' The MEM model defines actual efficacy as a separate construct, efficiency and effectiveness. The actual efficacy construct derives from Rescher's idea of pragmatic success, which is described as

the effectiveness and efficiency with which a method achieves its objectives. Therefore, the evaluation of the actual efficacy of a method requires measurement of both efforts required (efficiency) and the quality of the results (effectiveness). The MEM model defines perceived efficacy as a separate construct, perceived ease of use and perceived usefulness. The perceived efficacy construct derives from Rescher's idea of perceived success, which is described as the perceived ease of use and perceived usefulness to which the participant believes the method achieves its objectives. Therefore, the evaluation of the perceived efficacy of a method requires the measurement of the perceptions of the participants. The MEM's constructs are as follows:

- Actual efficacy (performance), which consists of two variables: *Actual Efficiency*; the effort required to apply PAR, and *Actual Effectiveness*; the degree to which PAR achieves its objectives.
- Perceived efficacy (perceptions), which consists of two parts: *Perceived Ease of use*; the degree to which the user believes that using PAR is effortless, and *Perceived Usefulness*; the degree to which a person believes that PAR will achieve its intended objectives.
- Intention to use: a parameter that can be used to predict the acceptance a method in practice, measured by how much a user intends to use it in the future.
- Actual Usage: a behaviour-based variable that measures how frequently PAR is actually used in practice. In this study the research will not focus on actual usage, because PAR is already adopted during the Challenges.

4.8 Operationalizing the MEM

Performance-based variables and perception-based variables are the two categories of variables that the researcher distinguishes. The effort and the quality of the results must be measured in order to evaluate the performance PAR method. The effort required to understand and apply the method (actual efficiency) can be measured using several measures, i.e., time and cognitive effort. By analyzing the PAR results, the quality of the method's result (actual effectiveness) may be determined. The researcher relied on participant experiences to evaluate participant effort and whether PAR is successful in achieving its goals when measuring the perception-based variables (Abeahão, et al., 2006).

4.9 Research questions

The main research question is *“Is the PAR approach, used during SevenSenses Challenges, considered to be successful?”* The main research question will be supported with the following sub-questions based on the conceptual framework:

1. What is the actual efficiency of PAR?
2. What is the actual effectiveness of PAR?
3. What Is the perceived ease of use of PAR?
4. What is the perceived usefulness of PAR?

5. Methodology

This chapter will describe the methodology used to answer the main and sub-questions of this research. It will explain the research approach, the data sampling, analysis, and ethics.

5.1 Research approach

A qualitative research approach was chosen for this research. This research aims to obtain insight and knowledge about PAR used by SevenSenses. To fulfil this aim, semi-structured interviews were conducted. After that, the data was analysed. Qualitative research has the benefit of gaining a deep, intense, and "holistic" overview of the study, and it is highly contextual because the data is gained in a natural "real-life" setting (Gray, 2021). Qualitative research can be used on topics where little is known about the phenomenon, or just to gain new in-depth perspectives on topics where much is already known and to identify new concepts to do possible quantitative research later (Strauss & Corbin, 1998). During those semi-structured interview's the meaning of the interviewee's 'stories' are developed as the researcher interprets them. Through conversations, the interviewer leads the subject to new insights. The researcher is thus an active player in the development of data and of meaning (Flick., 2009). The researcher asked an initial question in such a way as to encourage the interviewee to talk freely when answering the question. The next intervention by the interviewer will usually be determined by the interviewee's answer, but the interviewer needs to lead the conversation in the right direction, to prevent the conversation goes too far from the subject (Legard. et al., 2003).

5.2 Data Sampling

According to the literature, data saturation will be met with a sample of at least twelve participants (Guest et al., 2006). To make sure that the right data was obtained, the target population of the interviews consist of people who participated in one of the SevenSenses Challenges. The participants were selected on no other grounds than this. This type of sampling is called non-probability sampling, in which the change or probability of each person that participates in this study is not equal. The researcher selects samples based on their participation in a Challenge. The study intended to conduct twelve interviews, since Guest et al. (2006) stated that data saturation is reached when the ability to obtain additional new information has been attained, and when further coding is no longer feasible *'data saturation is already reached with a sample of at least twelve participants.'* Table 1 shows the demographics of the interviewees. Semi-structured interviews were conducted among the participatory action researchers who joined one of the four Challenges; The Women Empowerment Challenge in South Africa; The Healthy Cooking Challenge in Uganda; and The From Illness & Care to Health & Behaviour Challenges in the Netherlands. During these interviews, the interviewer tried to acquire information and gain an understanding of the participants' attitudes, beliefs, behaviours, or

experiences (Rowley, 2012). In a semi-structured interview, the interviewer is free to ask the interviewee probing questions and encourage them to elaborate on their answers. In addition, such probing questions also allow for the diversion of the interview to new pathways, which helps meet the research objectives (Gray, 2021). Before the interview, the participants filled out an informed consent form (Appendix 10.2). Participants were interviewed for one hour in Dutch and this was transcribed in Dutch as well. English interviews were transcribed in English. Any quotes from the interviews were added to the results and translated into English. The interviews were based on the interview guide (Appendix 11.3). Due to the COVID-19 pandemic, the interviews took place online. Furthermore, the interviews were recorded to allow the researcher to transcribe them. The records were stored digitally on a drive as described in the data management plan.

5.3 Data analysis

After conducting the interviews, the researcher transcribed the interviews. The transcripts were initially examined by two investigators to ensure validity and minimize bias, and emerging themes were discussed. For analysing the interviews, open coding was used in ATLAS.ti. Open coding is an analytical process through which concepts and themes are identified and their properties and dimensions are discovered in data. The codes were based on a codebook and derived from the framework and the interview itself (Appendix 10.4). After that, axial coding was used to link categories at the level of their properties and dimensions.

5.4 Ethical considerations

Before the interviews were conducted, the participants were informed about the study, and in addition, an informed consent form was sent by email to the participants. They received information about the fact that they were going to be recorded, the data was stored, and by signing the informed consent they gave consent to conduct the interview. The participants had the freedom to withdraw from the study at any time without giving a reason. Additionally, after conducting and transcribing the interview, the audio file was immediately erased. Participants' names were changed to numbers, to ensure privacy.

Table 1: List of participants

Participant	Date	Challenge	Year of Challenge
1	04/14/'22	Women empowerment Challenge	2017
2	04/22/'22	Women empowerment Challenge	2017
3	05/04/'22	The Female Rights Challenge.	2016
4	05/12/'22	From Illness&care to health&behaviour	2019
5	04/20/'22	From Illness&care to health&behaviour	2019
6	04/19/'22	Healthy cooking Challenge	2015
7	05/02/'22	Healthy cooking Challenge	2015
8	04/19/'22	Healthy teeth Challenge	2017
9	05/18/'22	Healthy teeth Challenge	2017
10	04/29/'22	Healthy teeth Challenge	2017

6. Results

Within this section, the findings from the data were discussed and based on the four constructs of the MEM model. Dutch quotes were translated into English.

A total of 15 participatory action researchers who participated in the SevenSenses Challenges were invited to participate in this study. Five of them were unavailable to interview. Eligible participants included the healthy teeth Challenge (n=3), the healthy cooking Challenge (n=2), the women empowerment Challenge (n=3), and From Illness & Care to Health & Behaviour Challenge (n=2). All interviews were included for analysis. The interview data highlighted the actual efficiency, the actual effectiveness, the perceived ease of use, and the perceived usefulness of PAR conducted during the SevenSenses Challenges. The participatory action researchers will be called participants.

6.1 Actual efficiency

The first construct of the MEM is ‘the actual efficiency’; the effort required to apply PAR. The key question ‘how much effort is required to apply PAR’ was answered through several key themes, PAR training, effort, cooperation between both participants and the local community, and bond of trust.

6.1.1 PAR training in advance of the SevenSenses Challenges

‘PAR training’ was one of the key themes emerged from the data, highlighted the importance of PAR training in advance of the SevenSenses Challenges. It was clear from the interviews that the participants needed to learn about the PAR methodology and how to use those methods. This training was perceived essential by them. This was because, they not only learned about the PAR approach, but also did exercises with actors. All participants attended a training course beforehand, except for participant 5. Participant 5 learned about the PAR approach from participant 4, by working together on the I&C to H&B Challenge. The interviews showed that creating a bond of trust before starting the Challenge, was important to the participants. During the training, participants met their group of researchers. Members of different Challenges often offered the same views on the PAR training. Participant 9 said *‘I think that was very important because we already created a bond with each other beforehand. You know what to expect ... we were very familiar, and I thought yes, we're going to do this together.’* Someone else said: *‘The atmosphere in the group was great.’* - Participant 2.

6.1.2 PAR was very time-consuming

‘The amount of effort’ was another key theme; how much time and effort does PAR take during the Challenges. It emerges from the data that performing the PAR approach takes a lot of time and effort from the participants. The participants were working on-site for three months. With a few exceptions of two months, due to personal circumstances. Although SevenSenses wanted the participants to work

on the project at least 3 days a week, everyone was working on it every day. To create a bond of trust with the community, it was important for the participants to be in the community as much as possible. Various participants reported, that working on the Challenge was not only during the week but also during the weekends *'We had a barbecue with the community and visited a church to show we were here, and to make sure that you are getting to know people. We were able to do that with the help of the local researcher.'* – participant 9. During the Challenges abroad, a time-consuming problem was that the participants were on the road for a long time. Since the sleeping quarters of the participants are located far outside the local community. Another time-consuming thing about PAR was analysing the data and thinking about the next steps to take. Participant 1 said *'Four days a week in the field, the days that we're not going in the field, we were analysing and putting together what the next move would be, arranging when we would do the focus group meetings and stuff like this.'* However, the participants did not mind, because the community gave them energy and satisfaction in return. They had a really good time during the Challenges.

6.1.3 Bond of trust with the local community

'Bond of trust' was already mentioned before, this is also a key emerge from the data, highlighted the importance of the bond of trust between the Dutch researcher and the local community. Trust can influence the effort required to apply PAR; the more the community trusts the participants the better the cooperation. Participant 10 confirmed this by saying: *'without trust, we would never have been accepted by the community ... we would not have been able to create awareness and ownership in those 3 months.'* Participants gained trust mainly by being in the community and listening to them.

6.1.4 Cooperation with the local researchers

Another important key theme was 'cooperation with local researchers'; the research group consisted of 1 to 2 Dutch researchers, 1 to 2 local researchers, and a coordinator. The data showed the participation of the local researcher's practices in the success of the process. The local researchers played an important role, since they knew the traditions, culture, people, and language. As one of the participants said, *'It is very nice that they were there, to make contact with the community in an accessible way and that they are not frightened by all those white girls who suddenly want all those things from you.'* - participant 9.

Not only did the local researchers had a key role, also the coordinators played a big role too. Data showed that coordinators had a lot of experience with the PAR approach, and he or she could give guidance to the other participants during the Challenges. This could be both personal or PAR related. Coordinators were responsible for preparing the research in advance. He or she established contact with local researchers, stakeholders, and, for instance, cooperative foundations. The

coordinator followed a 12-week SevenSenses action research training, which consists of a theoretical and a practical part.

In short, the degree of effort to apply cannot be expressed in numbers, but it appears from the data that the participants benefit a lot from the training in advance to the Challenge, the local researchers, and the coordinators. All this together reduced the effort to apply PAR.

6.2 Actual effectiveness

The second construct of MEM is ‘actual effectiveness.’ This term describes the degree to which PAR achieves its objectives. The key question ‘Do the Challenges achieves their objectives by applying PAR?’ was answered through several key themes; ‘openness, objects achieved, and co-products.

6.2.1 Openness of the local community

‘Openness’ was one of the key themes to emerge from the data, highlighted the importance of the openness of the local community, to eventually cooperate with the participants. To achieve the objectives the community had to be open to the participants. Also, trust is intertwined with this key theme. It was clear from the data, that the more the community was open and interested, the better the cooperation went. Within every Challenge, the local community appeared to be open to cooperation. Some proposed that this was due to the researcher’s approach; respectful, offering a listening ear, empathizing with the culture, and gaining trust. Participants from the women empowerment Challenges said that they were very surprised how open women and even men spoke about circumcision, even though it is a very sensitive subject. The participants especially noticed in the focus groups that they had a very good exchange without there being power dynamics, *‘so everybody was able to come up with their opinions.’* - participant 1. Also, in the I&C to H&B Challenge, they noticed that the local people were open to change. Participant 5 said *‘I think that is mainly because they just feel seen and heard and I think that is a big difference with traditional research where they are involved, that they feel kind of inferior.’* Yet, the same participant noticed that especially the municipality and health care providers were not immediately open to the Ikibuntu foundation initially, due to a lack of trust. Participant 8 had experience with traditional research. She noticed that PAR is much better received by the local community than traditional research; *‘Maybe it is the way we see them, as full partners.’*

6.2.2 Achieving objectives

Another key theme was ‘whether objectives are achieved using the PAR approach.’ During the healthy teeth Challenge, participants managed to create awareness and knowledge among teachers and children about the importance of dental health. The healthy cooking Challenge, outdoor cooking

shelters were built and even the number of pulmonary infections was reduced. The I&C to H&B Challenge achieved great results by putting Ikibuntu on the map among health care professionals. The general practitioners know how to find them and refer their patients to Ikibuntu for help. Participant 4 said: *'I am very proud of the PAR in Veendam. Because already 24 concrete PAR solution approaches are being implemented daily.'* In the women empowerment Challenge, the goal was achieved, when the community started working together, on what they wanted moving forward. They achieved more than just this goal. According to Participant 1 *'because I felt that I thought that especially with the kind of project, it wasn't something that you can say we've achieved the goal, but ... it's continuous.'*

6.2.3 Creating co-products

Another, key theme was 'co-product.' According to participant 6, *'a co-product is a natural consequence of PAR, by involving people and paying attention to their perspective, the feeling of empowerment and ownership naturally appears.'* This was confirmed by the data. During the women empowerment Challenge empowerment was created by talking about cultural barriers or cultural things like female circumcision, early age marriage, illegal brewing, or teenage pregnancies. These subjects were addressed in the self-help groups and gave the women self-confidence, empowerment and ownership. During the healthy teeth Challenge, participants let the local people come up with their solutions, which creates ownership. Moreover, some women took on the leadership role and emerged as leaders of the group. During the healthy cooking Challenge, the community was empowered, by making the women realize that they really can do something and contribute to the community, they had the feeling of empowerment. Additionally, in this Challenge, another co-product came about. As a result of the decrease in pulmonary infections, women did not have to spend any more time and money on their sick children. This allowed them to start their own business; *'This enabled one of the mothers to buy a house outside the slum.'* - participant 7.

In the I&C to H&B Challenge, empowerment was also a co-product, but not as big as the other Challenges. The community seeks one another to support and encourage each other; this was a form of empowerment amongst the Veendam community. In short, to answer the key question; the four Challenges achieved their objectives and co-products by using the PAR approach. In one Challenge PAR was life-changing for a community member; this person could move out of the slums.

6.3 Perceived ease of use

The third construct of the MEM is 'Perceived ease of use; the degree to which a person believes that using PAR is effortless. It was clear from the data that PAR is very time-consuming and 'intense',

but on the other hand, also gave the participants sort of satisfaction and energy back. Therefore, PAR has good ease of use. This is because SevenSenses created a low-key training, explaining PAR methods and tools, which were easy for the participants to understand and easy to apply during the Challenges.

6.3.1 SevenSenses created an easy and clear PAR training

in perceived ease of use, 'PAR training' is a key theme again. The training, hosted by Participant 6, is perceived by the interviewees as approachable and easy to understand for laymen, especially those who have no previous experience with PAR. Although it is presented in an accessible way, the participants indicate that they got effective tools during the training, enabling them to easily apply PAR during their Challenge. The participants also learned about the culture and ethical issues; the participants know what to expect during the Challenge. The participants were very willing to follow the training because SevenSenses created an easy and clear preparation for the Challenges.

6.3.2 Challenges could be difficult as well

Another key theme was 'difficulties.' From the data it emerged that a Challenge in the slums was experienced as heavy and emotional; *'We work in the slums, which can hit very hard: poverty, street children, no clean drinking water, bad sanitation and we can't solve this, which is sometimes frustrating.'* - participant 8. For many, it felt strange to go back to their sleeping accommodation after a day in the slums to take a shower to be 'clean' and after that, enjoy a good meal. Another frustrating thing was the government. They do not always cooperate, or sometimes there is just no money. This type of problem might occur and participants can not control that. For example, there might be parties present that have a conflict of interest. *'At a certain point they see dollar signs, unfortunately, in those slums, there is still very much poverty.'* – participant 6. Participants had to deal with cultural differences. In Africa, people are often late for appointments or do not show up at all. This required a lot of flexibility from the participants. PAR was also very time-consuming because the information collected from interviews was first analysed and returned to the community. After that, based on the findings the process of co-creation started. Participant 1 said: *'I would say in that sense it might seem to be more intense than traditional research because ... it's continuous, but looking back, I enjoy doing it because it was something different, but you could see the fruits of it unfolding.'*

6.3.3 Participants got satisfied themselves by using PAR

Another key theme was 'PAR advantages.' The data showed that the degree of joy the researcher experiences during PAR contributes to the degree of effort required to apply PAR. Participant 4 said

'I put in a lot of time, but PAR did not cost me any energy, really not a single day, I think this method is great, so I just want to do it every day. And that's not only the research itself, but it is the connection with people, getting people to move, to take control and responsibility.' Participant 8 agreed with this statement by saying *'by facilitating the process, you look at what can be done and what is possible. That is very inspiring, and those local people get empowered in the meantime and I have empowered myself ... it is a very positive beautiful creative process.'* It was clear from the data, that participants had a facilitating role and really enjoy offering local people a platform to speak their minds. After all, the local community knows best what is going on in the community and how they want to solve it.

'Self-satisfaction' was a theme that ties in with the previous theme. It highlighted the fact that the participants also enjoyed the Challenge. It was clear from the interviews that not only the local community was satisfied by PAR, but also the participants themselves. Besides being inspired by the way of thinking of the local people, the participants were also empowered, they learned a lot about new cultures and got to know the community. It contributes to the self-development of the researcher. Participant 3 added to that *'feeling part of a group feels so good, it gives a sense of purpose.'* For some people, it *'opened up a new way of thinking.'* - participant 2. Due to the fact, that PAR ensured working in a group setting, a close bond is easily created between the locals and participants. The coordinators indicate that they still have contact and friends all over the world *'with these people you have had a special time and that bond stays for life.'* - participant 8.

6.4 Perceived usefulness

The fourth construct of MEM is 'perceived usefulness'; the degree to which a person believes that the PAR approach was effective in achieving its intended objectives. It was clear from the data that the participants believe PAR was effective in achieving its objectives. The participants perceived PAR as being useful. PAR is continuous, which means that multiple evaluations should be done during the Challenges, to improve changes.

6.4.1 Evaluation

'Evaluation' emerged as a key theme from the data, highlighted the importance of the evaluating step of PAR. The data showed that all Challenges have had some form of evaluation. In the healthy cooking-, healthy teeth- and women empowerment Challenges, the coordinators went back to the community after a while, to see how things were going. Participant 8 noticed that the children still were brushing their teeth at school. Also, Participant 1 went back and noticed that the self-help groups continued. Participant 7, who participated in the healthy cooking Challenge, also went back to the slums where they started the cooking shelters. Now cooking shelters are being built in other slums as well, with the help of other local communities. The I&C to H&B Challenge is a continuous process.

Ikibuntu Foundation is still located in the health centre after two years. To make the project more sustainable, new focus groups will be organized in which different stakeholders will be brought together.

6.4.2 Is PAR always the best research method?

To rate the degree to which a person believes that the PAR approach will be effective in achieving its intended objectives, another key theme was 'is PAR always the best research method?' participants had different views on this key theme. Some proposed that not all problems can be solved with PAR. If communities have money problems or political problems that require policy changes; *'if the local government does not want to give 100% responsibility to the citizens in letting them participate in the decision-making process, PAR has no chance of 'successes.'* - participant 4. Others stated that when a problem within the community must be tackled, PAR is the best approach; *'PAR is the best method to understand. Look closely at what the issues are within the community, and then for the community itself to create solutions for these issues. It's also a very good method to understand what's already being done within the community'* - participant 1. Some even said that their Challenge would never have turned out so well without applying PAR. In the I&C to H&B Challenge, Participant 4 said *'PAR simply has everything it needs in terms of methodology to connect citizens and care providers and I cannot think of any other method to get it off the ground so quickly and so well.'*

6.5 Intention to use

The fifth construct of the MEM is 'intention to use'; the degree to which a person would use PAR in the future. It was clear from the data that participants would use PAR in the future, as opposed to, for example, traditional research. They want to use the PAR mindset in the future or even do so already. Participant 2, *'when I want to work with vulnerable groups, I will always keep PAR in mind.'* Participant 8 uses the PAR approach in her promotion research, *'If something has to be changed, you can't impose it top-down; you have to enthuse the people involved and get them on board, so work bottom-up instead of top-down.'* Participant 4 will always use PAR, because he believes PAR is the right approach to eliminate diabetes in the Netherlands, *'This can be only possible in collaboration with municipalities and with professionals. PAR has proven to be a good method for this.'*

7. Discussion

This study aims to obtain knowledge and insights about PAR. The discussion elaborates, based on the constructs of the MEM model, on the actual– and perceived efficacy of PAR during the SevenSenses Challenges and the concordance with findings described in the literature. Furthermore, the relation to the model is described and suggestions for future research are made. Lastly, several strengths and limitations of this research are described.

7.1 Data saturation

Ideally, semi-structured interviews were initiated until ‘theoretic saturation’ was reached (Glaser & Strauss, 1967). Theoretical saturation is reached when no new information comes from subsequent interviews and the data collected so far show conceptual richness. According to Guest et al. (2006) this is a sample of twelve. However, it should be noted that the current study has a short time frame of approximately five months, so the researcher was rather content with 10 interviews. With 10 interviewees information saturation was reached.

7.2 Actual efficiency

‘What was the effort to apply PAR’, that was the question to rate actual efficiency. Applying PAR took an effort from the participants, but there were some factors which reduced the degree of effort. The results showed that the effort was reduced by the PAR training, the local researchers, and the coordinator. SevenSenses created a clear and easy-to-understand training. During the training, the PAR approach was explained in an easy way and the participants got some good tools to perform PAR during the Challenges. Also, the effort was reduced by the coordinator of the Challenge. For the participants, not only the PAR method was new, but also the setting, as PAR is often performed in slums. This can cause a culture shock. So, the coordinators, with their experience, can help at an emotional level. Besides the coordinators who provide a lot of help, the results showed that the local researchers were essential in conducting PAR. Because of these local people, the participants got easily into the community and built a bond of trust more quickly. This is confirmed by the literature *‘Participation has come to be seen as an essential element of development strategies in third-world countries and as crucial to community development in health initiatives and health planning activities in developed countries’* (Kendall et al., 2011). Another important aspect of actual efficiency was time. Three months was a short time of period, in which participants were working every day. This was experienced as intense, but for all 10 of the participants, it was worth it. Other studies show a period of approximately seven up to nine months (Craig, 2008; Snell et al., 2009). Due to the fact that the researcher was on his own, this PAR took twice as long as anticipated. Although the host organization

provided the researcher with a lot of support and encouragement, the project's coordination and facilitation required a tremendous amount of labour, especially for one person.

In the study of Dudgeon et al. (2017) the PAR process even took two years. This was also confirmed by Participant 1, who performed his project for two years and is still involved. A three-month Challenge was a very short period compared to the literature, but the three months Challenges in this study did achieve their goals, by working hard. SevenSenses actually called it Challenges because it is a Challenge to perform a PAR in three months (Eelderink, 2021). In all four of the Challenges the PAR stages were well completed within the three months (except for the I&C to H&B Challenge, this Challenge is still continuing). This shows that even in a short time frame, the PAR process works. However, during The Healthy Teeth Challenge, participant 9 said there was hardly any time for evaluation only because it was done in the last few weeks; *'we barely did an evaluation, because we ran out of time.'*

7.3 Actual effectiveness

'Did PAR achieve its objectives?', was the question to rate actual effectiveness. The results showed that all four Challenges achieved the goal of the research to a certain extent. The outcomes of a PAR are often difficult to measure, because many of the changes cannot be described in numbers, and because the outcome was frequently only visible over a long period (Eelderink, 2021). What did stand out was that 'co-products' were created in addition to the objectives. The PAR process, while giving accountability to the local community, caused people to experience a sense of empowerment and ownership. This was consistent with what is described in the literature (Baum, 2006; UKEssays, 2018; Tsey et al., 2007; Dudgeon et al., 2017 p.6). Part of the Challenges' quality arose from the cooperation between the locals, local researchers and participants. The more locals were open to the PAR approach, the more the quality of the research increased. If the local community would be not open to cooperation or would be only partially interested, PAR would never achieved the objectives (Baum, 2006). This was supported by the participants, who indicate that their Challenge would not have succeeded without a PAR approach.

7.4 Perceived ease of use

'Do the participants believe the use of PAR was effortless?' It is clear from the results that PAR was not effortless in all aspects. This was because the PAR process took a lot of time and effort. To rate the ease of use, PAR training was an important factor. This was because the ease of use was increased by the training. Due to the SevenSenses training in advance of the Challenge, the participants learned about the PAR approach. The results showed that the SevenSenses created a clear and easy training. This was mainly because the method was explained in an approachable way during the training. The results showed that the training was very helpful to the participants

because, during the research itself, they were prepared for this e.g., in terms of safety and privacy during interviews and focus groups in the Challenges. Although PAR is not perceived as effortless, this is not considered a problem by the participants. As said before, the Challenge brought them satisfaction and joy and for that, they are willing to work quite hard.

Another important factor, which might affect perceived ease of use, is the advantages and difficulties of PAR during the Challenges. The degree to which a person believes that PAR was effortless was also determined by the degree to which a person could derive satisfaction from the Challenge. The results showed that there was a certain level of self-satisfaction. The more joy a person took in their work, the more effortless it was. Not only the community was empowered, but so were the participants themselves. They were self-satisfied to a certain extent. They were inspired by the community and energized by the local people.

7.5 Perceived usefulness

‘Do the participants believe that the PAR approach was effective in achieving its intended objectives?’, was the question to rate perceived usefulness. It was clear from the results that the participants believed that PAR was effective in achieving its intended objectives. They indicated that they would not have achieved the intended objectives without the use of PAR. And as Moody (2003) says *‘for a method to be successful, it must not just enhance task performance, but also people’s willingness to use it.’* From the results, it can be assumed that participants like to work with the PAR approach and also recommend it to others. However, participants indicate that there is only a short period of evaluation in the end of the process, so many had no idea if the community is still benefiting from the PAR. Yet, some participants had returned to the community and noticed that the community was still working on it (it turned out that the projects are still running).

7.6 Relations to the model

To explain the relation of the results to the MEM model. In doing so, Moody (2003) does not state whether a method is ‘good’ or ‘bad’, but looks at whether performance and perceptions of the user are successful.

Actual Efficiency and Effectiveness determine intentions to use a method only via perceptions of ease of use and usefulness. The objective reality is less important than subjective reality. While actual efficacy will influence perceptions of ease of use and usefulness, they will also be influenced by other factors (e.g. prior knowledge and experience with PAR). Based on the results, the researcher is rating the 5 constructs of the MEM model below:

1. PAR is actual efficient
2. PAR is actual effective

3. PAR is not perceived as effortless in all aspects, but it is perceived as clear and easy-to-understand.
4. PAR is perceived to be useful
5. Participants intend to use PAR in the future

7.7 Limitations

This research provides insight into the perception and experiences of the participants of the four chosen Challenges. A major limitation of this study is the fact that the researcher did not manage to conduct 12 interviews. Due to time constraints, the researchers were able to collect data relating to only 10 participants, and the researcher cannot guarantee high reliability. Furthermore, the interviews were only conducted among people who are working for SevenSenses. So, the study could be biased because it is obvious that they are enthusiastic about their own way of working. The researcher did not have the capacity to interview the local researchers, due to bad internet access in those countries and lack of time, since this study only took place in five months.

7.8 Recommendations

The reliability could be improved by conducting more interviews, to test the consistency between the participants. When more interviews are conducted, data saturation is more likely to be fulfilled. Furthermore, to improve reliability and to ensure triangulation, a mixed-method approach could be used in follow-up studies. By conducting a survey, the results could verify the findings of this study. Moreover, these results could give a better understanding of the representativeness of this study.

In this study, only the SevenSenses participatory action researchers were interviewed. These results might give a one-sided perspective, hence the data from these interviewees could be biased. During this study, it was not possible to interview the local researchers. Consequently, those results might give more representativeness from the community's insights into the study.

7.9 Strengths

Nonetheless, given the constraints for data collection, the researcher is confident that reasonably accurate knowledge and insights are obtained. This study has an added value, because it provides the SevenSenses institute with personal experiences and insights into the Challenges. Moreover, these personal experiences and insights are based on different types of Challenges. By looking at Dutch, African, old, and new Challenges, many different perceptions are considered. By using a mixed group of Challenges this study attempts to reduce bias.

7.10 Reflection on the study

In the period of February until June, this research was commissioned at SevenSenses. SevenSenses is a network organisation, which means the organisation consists of freelance, who are working from home. During this internship, I noticed that it was hard to work from home every day. Fortunately, students could support each other among themselves.

Looking back at the study, the researcher would have chosen another Challenge on which the study was focused. This study examined a 3-month Challenge. However, during the study, it appeared that the I&C to H&B Challenge, was not an official Challenge because it is still continuing, after two years. This makes it difficult to compare with the other Challenges because they do last 3 months. Looking back at the planning, the researcher could start earlier with the interviews, there might have been more time to contact the local researchers for interviews.

8. Conclusion

The knowledge obtained during the PAR Challenges represented local communities defining their own experiences, needs, and ways of representing themselves. This study has shown that the Challenges exemplify what can be achieved using a PAR approach. While not without its Challenges and complexities, SevenSenses has implemented PAR processes to support important change processes for communities and the stakeholders involved. PAR gives a voice to communities in identifying the factors impacting on their social and emotional well-being and encourages them to see themselves as agents of social change. Based on the results, conclusions are formed to answer the research question:

Is the PAR approach, performed during the SevenSenses projects, considered to be successful?

This study shows that PAR is successful, by following the MEM model. PAR is actual efficient, SevenSenses has succeeded in creating a clear and easy-to-understand training. Which helps reduce the effort to perform PAR during the Challenges. Another unique aspect was the cooperation with the local researcher, which also reduced the effort to perform PAR. PAR is actual effective, Not only does PAR achieve its objectives it also creates empowerment and ownership among the local community. PAR is not perceived as effortless in all aspects, but it is perceived as clear and easy-to-understand. They even say *'it was one of the most beautiful experiences of their lives.'* PAR is perceived to be useful. The participants believe that they would not have achieved the intended objectives without the use of PAR, as opposed to traditional research for example. PAR is indented to use in the future by the participants and according to Moody (2006), for a method to be successful, *'it must not just enhance task performance, but also people's willingness to use it.'*

To improve reliability in future research, more interviews could be conducted. When more interviews are conducted, data saturation is more likely to be fulfilled. In future research also local researchers could be involved to prevent bias. Furthermore, to improve reliability and to ensure triangulation, a mixed-method approach could be used in follow-up studies.

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11. Appendix

11.1 Datamanagement plan

Designing a data management strategy is critical to ensuring the safety of data and the privacy of participants. As a result, it is critical to plan research, document findings, and safeguard data. Taking these procedures helps to ensure the security and integrity of data that is saved, making it easier to follow ethical principles and processes, such as confidentiality. Data cataloguing and storage in a secure manner also means that there are greater opportunities for future collaborations between researchers and data re-use (Ray et al., 2016).

Your contact

Name: Lisa Popma

Adress: de Leeuw van vlaanderenstraat 22A, 1061CS, Amsterdam

Telephone: 0650277147

Email: l.popma@student.vu.nl

University: Vrije Universiteit Amsterdam

Faculty: Faculty of Science

Department: Management, Policy Analysis & Entrepreneurship in Health Science

Please list the partner organisations involved in this project and indicate which organisation has the lead

Vrije University Amsterdam: Academic organization of primary researcher. Charlotte van t Klooster from the VU is in charge of scheduling intervention meetings throughout the research process.

The VU supervisor provides feedback to the researcher.

Vilans: SevenSenses. On-site supervision is conducted through SevenSenses. Also, data storage is done through dropbox by SevenSenses.

Consulted data management expert

N/A

Data description

Please specify the origin of the data: will new data be collected or produced and/or will existing data be re-used? If you re-use data, what is their source?

New data will be collected by the researcher. No data will be re-used

How will you collect/access the data?

The data will be collected through a literature study and semi-structured interviews.

Data collection from interviews via Zoom.

Data were recorded using the researcher's laptop.

Data was transcribed by the researcher itself.

Data codes using Atlas. ti software.

Describe your data assets at each stage during the research process. In which format is the data at this stage? Also indicate a rough estimation of the volume of the data assets.

Raw data will be accessed through Zoom on the laptop.
Processed data will be accessed after transcription in a word format.
Analysed data after being coded, and transformed to a PDF format.

Legal and ethical requirements

Are there any ethical issues that should be addressed by an ethical review board?

No, The participants of the semi-structured interviews will fill in informed consent.

Will you use animals for experimental or scientific purposes in your research project?

No

Please list the applicable Codes of Conduct for your research project.

Next to the Dutch and EU legislation, it is important to follow the VSNU Netherlands Code of Conduct for Research Integrity but also the policies of the VU and the Faculty of Science. The research project must comply with 'The General Data Protection Regulation' for the EU. The VSNU Code of Conduct in the Netherlands also needs to be fulfilled to ensure research integrity. The Code emphasizes five main principles: Honesty, Scrupulousness, Transparency, Independence, and Responsibility.

What other legislation applies to your research project? Please describe.

N/A

Storage and backup during the research process

What is the security level needed for your project?

Privacy: low

Availability: medium

Integrity: medium

Confidentiality: low

What measures will you take to secure and protect data during the research process? Please describe, for your data assets, how you will ensure data security and who has the authorization to access the asset.

Raw data & processed data.

After raw data is processed, it will be deleted from the researcher's laptop. The on-site supervisor has access if needed.

Is it necessary to transfer the (physical or digital) data assets to other locations or research partners? If yes, please describe how you secure the file transfer.

No

Please describe, for your data assets, where and how you will store and back them up during the research process.

The data will be stored in a dropbox file since SevenSenses works with dropbox.

Data sharing and long-term preservation

In which digital repository (or data archive) will you archive your data? Please provide a name and link.

Dropbox

What is the persistent identifier (e.g. DOI-code) that refers to the dataset?

N/A

In which online catalogue or web portal will you register your data assets? Please provide a description and a link.

N/A

Are there restrictions to data sharing? If yes, please specify the reasons and list the data assets you do not wish to share publicly.

N/A

When will you share the data (e.g. immediately after completion of the project, or after an embargo period)? If not immediately, please specify the reasons.

Immediately after completion of the project.

Please indicate the license and/ or terms of use under which you share your data.

N/A

For how long will the data be available in the archive/ repository?

A year

Will the research publication resulting from this research project be openly accessible?

No

Documentation and data quality

How will you document your data?

It will be documented via codebooks. But also field notes are taken during interviews.

Will you follow a specific metadata standard? If yes, please provide a name and link. If there are no standards in your discipline, describe what metadata will be created and how.

No, Metadata will be created using the format of data stage (raw, processed, analysed)_date_filetype (transcript, consent, coding) _participantID (randomized)_version number

Will you use standard vocabulary for all data types present in your dataset? If not, will you provide mapping to more commonly used ontologies (naming conventions)?

Data will be mapped into themes and categories derived from the conceptual framework

What methods or software tools are needed to access and use your data?

Zoom Video Communications, Microsoft Office and Atlas ti.

Will you take measures to ensure data quality? Please describe these, if applicable.

N/A

Data management responsibilities and resources

Who will be responsible for the management of the data assets after the completion of the project (e.g. the project lead/ dedicated data manager/ department head)?

Name: Madelon Eelderink

Function: Founder and Participatory action researcher

Faculty/ Institution: SevenSenses

Department/Group: Research

What resources (for example financial and time) will be dedicated to research data management? Please estimate their cost.

The storage on Dropbox is free.

11.2 Informed consent

Informed Consent

Date: __-__-____

Subject: Research on the value of Participatory action research used during the SevenSenses projects. In this research Lisa (student MPA from the VU University Amsterdam) interviews participatory action researchers who have worked on a SevenSenses project. This research originated from the request of SevenSenses for an in-depth analysis on the use of PAR. The interview will last approximately one hour.

I hereby declare that I have been informed in a manner that is clear to me about the nature, method and purpose of the study.

I understand that:

- I can and may stop my participation in this study at any time, without giving any reason.
- The recording will be destroyed after completion of the interview.

I declare that:

- I voluntarily participate in this research.
- The results of this interview may be processed in a report or scientific publication.
- I give permission for the interview to be recorded by means of a (mobile) voice recorder.

Signature:

11.3 Interview guide

Because the interviews will be semi-structured, the interview is composed of themes with several questions. The interview will become more of a conversation in which the interviewee tells a story, but the interviewer is still in control.

Intro

1. What is your name?
2. Which project did you participate in?
3. Can you briefly summarize the project?
4. What research techniques were used?
5. Was the project something you came up with?
6. Why did you choose this Challenge?

PAR

7. Has PAR produced new information/ knowledge for academics, for possible follow-up research?
8. Did the PAR you performed have any theoretical support?
9. How were participants involved in your research?
10. What did you see as the most important responsibilities and tasks?

Efficiency

11. How well do you think you and the other researchers communicate?
12. How well do you think you and local citizens communicate?
13. How long did the project took?
14. How much time did you put into it?
15. Were there any setbacks?
16. did the local people cooperate/oppose?

Effectiveness

17. What was the most important achievement during the project?
18. Did you achieve what you wanted to achieve with the project?
19. how satisfied were you with the outcome of the project using PAR?
20. Did you feel the project was helpful to the local citizens?
21. Where there any side effects?

Perceived ease of use

22. Is PAR difficult to perform?
23. Have you taken a PAR training at SevenSenses?
24. Did it provide enough knowledge to get started with PAR
25. Is the method of PAR difficult/easy to learn?

26. Can you tell me what you liked the most about working with PAR?
27. Did you find something difficult during working with PAR?
- 28.

Perceived usefulness

29. Do you think PAR is a useful method to solve complex problems?
 - And why?
30. Do you think PAR provide an effective solution to complex problems?
 - And why?
31. Were there any areas for improvement after evaluating the project or things you could have done differently?
32. Do you think PAR was the best method to solve the problem?
 - And why?
33. Are you currently working on other projects using the PAR method?

11.4 Codebook

Themes	Codes	Explanation
<i>Interpretivism</i>	How did Challenge arise? Researcher's task Responsibility Research methods Appreciative Inquiry	arise from community? what do researchers see as the most important task? Doing research or facilitate? Gave responsibility to the locals or researchers? What kind of research methods were used? Was Appreciative Inquiry used?
<i>Positivism</i>	How did Challenge arise?? Recommendations	arise from gap in literatuur? Did the researchers did recommendations?
<i>Actual efficiency</i>	Cooperation local researchers Bond of trust with community Time Coordinator	How was the cooperation with them? How much effort did it took the built this bond of trust and what was the effect? How much time and effort did the researchers put into the Challenge? What was the role of the coordinator?
<i>Actual effectiveness</i>	Open for reseachers Achieved objective Co-product Quality	Was the community open for PAR/researchers? Were the Challenge goals achieved? Besides the objectives, were there additional goals achieved?
<i>Perceived ease of use</i>	PAR difficulties PAR advantages Self satisfaction SevenSenses training Easy to learn? Clear & understandable Setbacks	What is the hardest thing about the PAR approach What does the interviewee liked the most about the PAR approach Was the interviewee satisfied by conducting PAR Did the researcher follow a training? Was PAR easy to learn? How easily the interviewees were able to apply PAR during the Challenges, following the training Where there any setbacks during the PAR Challenge?
<i>Preceived usefulness</i>	PAR evaluation PAR; the best approach	Did the interviewees do an the Challenges PAR always the best approach to tackle community based-issues?

