

Exploring characteristics of an employee engagement app

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ABSTRACT

This report presents the results of the explorative multi-method study into characteristics of mobile app-based employee engagement surveys. Based on fourteen interviews with employees, managers and software developers, but also informed by the analysis of multiple documents, our conclusion is that the app-based employee engagement survey is a successful substitution for traditional engagement surveys. The level of engagement is measured more frequent and the collected data is processed and displayed instantly. Employees gain insights in the aspects that affect their work experience and they can identify patterns that influence their job performance. The managers and their employees are motivated and activated to improve the work environment.

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Keywords

e-HRM, Employee Engagement, Employee Wellbeing, Work Environment, Traditional Engagement Surveys, Digitization.

1. INTRODUCTION

Culture and engagement are one of the most important issues companies face around the world. Research has pointed out that 87 per cent of organisations mention culture and engagement as one of their top priorities and challenges (Brown, Melian, Solow, Chheng, & Parker, 2015). The annual employee survey is the most common tool used by organisations to measure employee engagement (LaFleche, 2019). However, according to the study of Fermin, 70 per cent of the employees do not respond to annual surveys. Moreover, 80 per cent of the employees believe HR managers would not act on survey results (Fermin, 2014).

The annual employee surveys are under pressure. Criticism on this data collection tool has risen the last five years. The surveys are not engaging and too long, which results in employees that have no motivation to participate (LaFleche, 2019). The frequency of the questionnaires is not going to yield usable data, because the information is already out-dated (Keen, 2015). Furthermore, by the time employees hear about the survey results, they often have forgotten about their responses, which can cause some to feel misrepresented or misunderstood (Wilson, 2017).

Nowadays, numerous e-HRM tools have been developed to measure employee engagement and wellbeing. These tools have been designed as a substitute for the annual engagement survey. In this research, we examined the e-HRM tool through qualitative data collection by semi-structured interviews. The characteristics of digital employee engagement tools are explored.

The goal of this research is to explore characteristics of a digital employee engagement app.

First, we elaborated on the historical evolution of employee, to get a full understanding of how the topic of employee engagement has emerged over time. Subsequently, the importance of employee engagement is argued. Besides, we analysed the traditional engagement surveys and the digital revolution in employee engagement. To conduct research on a tool measuring employee engagement, we compared several tools based on their value creation, management approach, mission and feedback frequency. Based on the comparison, one digital tool is used as a unit of analysis. We interviewed users of this system to explore the characteristics of the digital employee engagement tool.

Historical Evolution of Employee Engagement

The roots of employee engagement surveys can be found in the late 1800s when Fredrick Taylor, a pioneering industrial engineer, studied how people's attitude impacted their productivity in the steel industry (Bersin, 2014). Moreover, the work of contributors to the management thoughts such as Frederick Taylor, Lillian Gilbreth, Mary Parker Follet and Elton Mayo's Hawthorne studies, continue to influence today's practices of employee engagement (Dagher, Chapa, & Junaid, 2015). This influence can be seen by their contribution on the concept of employee engagement, such as the integration of humans and machinery (Derksen, 2014), integration of work, power and conflict resolution (Mendenhall & Marsh, 2006) and social relations, motivation and employee satisfaction on factory productivity (Reece, 2013).

However, some argue that the term 'employee engagement' appeared in academic journals for the first time in 1990 (Welbourne, 2015). The original concept of employee engagement is credited to Kahn in 1990. Kahn distinguished three psychological conditions that affected an employee's engagement or disengagement: meaningfulness, safety and

availability. By meaningfulness he meant the feeling that an employee receives something in return for his/her effort, by safety the ability to show and work without being afraid of negative consequences and by availability one's possession of the physical, emotional and psychological resources needed on the job. He concluded that freedom to bring oneself into the work makes people more engaged with the work process. Therefore, engagement was seen as bringing one's personal skills and interests to the job (Kahn, 1990).

The conceptualisation of employee engagement would be further expanded by researchers such as Maslach, who argued that job burnout and engagement are two ends of a continuum, defining employee engagement as "a persistent, positive affective-motivational state of fulfilment" (Maslach, Schaufeli, & Leiter, 2001). Later, Shimazu and Schaufeli (2009) developed further, by describing it as "a unique concept that is best predicted by job resources and personal resources and is predictive of psychological/physical health, proactive organisational behaviour, and job performance" (Shimazu & Schaufeli, 2009). One of the latest definitions puts employee engagement as the transcending of both satisfaction and happiness, moving into a level of intense emotional commitment to the organisation (National Business Research Institute, 2019).

Development of Employee Engagement in the last 40 years

iPerform Systems, an online performance improvement programme, has identified a development in the field of employee engagement over the last 40 years, *Figure 1* (iPerform Systems, 2015). According to them, job satisfaction (good working conditions) has evolved into employee engagement (trust and mutual values). However, they state that we are in a new transition towards intrinsic engagement, which entails the meaning of the job, the personal growth and employee wellbeing.

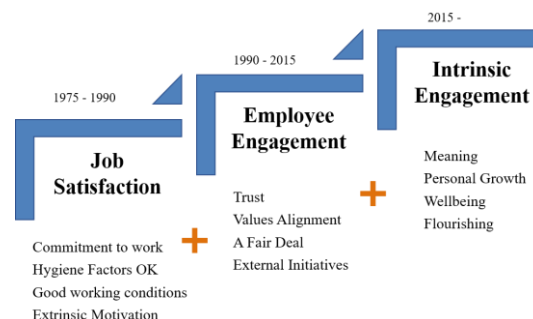


Figure 1: Development of Employee Engagement in the last 40 years (iPerform Systems 2015)

History points out the versatility and intangibility of employee engagement. Various models have been designed to comprehend this topic, all pointing out different perspectives. However, growing interest in employee engagement indicates the importance of the subject (Zinger, 2013). What is the importance of employee engagement, and how is it put into practice?

2. FROM TRADITIONAL ENGAGEMENT SURVEYS TOWARDS DIGITAL TOOLS TO CAPTURE EMPLOYEE ENGAGEMENT

Importance of Measuring Employee Engagement

Da Costa and Correia Loureiro (2019) conducted research on the importance of employee engagement by analysing the level of connectedness among customers and between customers and employees. Their findings reveal that when employees are

happier at work, they are more committed and accountable (Da Costa & Correia Loureiro, 2019). Engaged employees feel recognised, have a feeling of belonging within the organisation and have a good work/life balance. Research points out that engaged employees tend to take part of the ownership of the organisation and be more focused on the value they can add to the products designed, created and delivered (Harvard Business Review Analytic Services, 2013). A highly engaged workforce not only maximises a company's investment in human capital and improves productivity, but it can also significantly reduce costs, such as turnover, that directly impact the financial results. How have companies practised employee engagement in the past and how is it applied in organisations nowadays?

Traditional Engagement Surveys

To bring employee engagement into practice, several strategies have been developed in the past. First of all, using measurement is crucial to map the current situation of the level of engagement. The right factors have to be measured to determine the space for improvement (Baker, 2007). Formal, large-scale surveys and questionnaires are often used to collect the data, to gauge how employees feel about their jobs and workplace (Leong, 2018). The first step in conducting an employee engagement survey is for the employer to decide on the survey's aims, scope and timescale. Several key factors need to be considered when designing a survey, including the themes it should explore, whether or not previous surveys have been conducted and the response scale to questions (Pritchard, 2019). These surveys are usually conducted every two years or annually (Wiles, 2018).

The frequency is viewed as a weakness of the traditional engagement surveys. At a time when businesses need all the intelligence they can get about their talent, it's clear that something different is needed (Huttunen, 2018). It takes approximately two months to prepare the survey, three or four months to process the analyses and gather opinions and one month to decide on the actions in response to the results. By the time the action plan is developed, it is usually four to six months after the survey have been conducted (Leong, 2018). Therefore, the collected data is no longer representative.

Surveys have an image as not engaging and too long, which results in employees that have no motivation to participate (LaFleche, 2019).

These shortcomings of engagement surveys have implications on the measurement of employee engagement. Information and feedback of employees is outdated and could have become irrelevant for the current situation. This can lead to a misfit between managerial intervention and the needs of the employees.

The digitisation of business creates opportunities for HR managers to overcome some deficiency of traditional engagement surveys.

Digitisation of Employee Engagement Surveys

Nowadays, technical developments enable HR departments to use digital tools for the collection of data concerning employee engagement. An example is the Employee Net Promotor Score (eNPS), a concept that is designed as a way to measure employees' willingness to be ambassadors for the company by advocating employment there (Qulture IQ, 2019). It is simple to use and yields a single number that easily can show trends over time. eNPS tends to yield higher response rates than more complicated surveys (Rouse & Daniel, 2018). According to Gartner, annual employee surveys will be caught up by other employee monitoring data, from respectively 89 percent and 30 per cent in 2015 to 63 per cent and 80 per cent in 2020 (Wiles, 2018).

Digitisation of employee engagement surveys increases the frequency of data collection on employee engagement and therefore can shorten the distance between the organisation and management. However, the question has risen where the next seismic shift will occur. Gallup, an American global analytics and advice firm, argues that there is no metric that captures more variance in human behaviour than wellbeing. Wellbeing is defined as "all the things that are important to how we think about and experience our lives", which becomes the most important measure for gauging the influence your organisation has on employees, customers and the communities you serve (Rath, 2011). Therefore, the digitisation in the HRM sector may offer more possibilities to focus on employee wellbeing in order to measure employee engagement more comprehensively.

Characteristics of Measuring Employee Engagement

Our framework consists of three blocks: the importance of employee engagement, measuring employee engagement and the required characteristics of the measuring tool. These blocks build the system of employee engagement measurement in organisations: it starts with the content, it moves on to the instrument to capture it, and it completes with characteristics of the measuring instrument.

Importance of Employee Engagement

According to research, four factors have an impact on the employee engagement, *work/life balance*, *employee wellbeing*, the feeling of *belongingness* and *recognition* (Da Costa & Correia Loureiro, 2019). Engaged employees tend to take part of the *ownership* of the organisation and be more focused on the *value they can add*. Engaged employees will stay within the organisation, which leads to *human capital retention* (Block A, Figure 2).

Elements of Measuring Employee Engagement

To measure the employee engagement within the organisation, several aspects need to be taken into account, as Block B (Figure 2) points out:

- **Frequency** – The engagement should be *measured frequently*, to obtain recent data.
- **Employee Wellbeing** – measuring *employee wellbeing* is important, it captures and explains a wide variety of human behaviour that could affect employee engagement.
- **Effective support** – Measuring the employee engagement has to lead to *effective support* from the manager, in order to meet the needs of the employees.
- **Personal development** – The measured engagement has to give insights in the *personal development* of employees, to make them more engaged with the company.

Characteristics of a Measuring Tool

To achieve employee engagement, the measuring tool needs to have several characteristics (Block C, Figure 2).

- **Concise** – All relevant data should be collected *concisely* and to the point to avoid employees will drop out.
- **Motivate** – The measuring tool has to *motivate* employees to collect and share information on their engagement.
- **Responsive** – The system has to have a *responsive* design, to collect and display data in an intuitive and comprehensible way.
- **Activate** – It has to *activate* the employee and the manager to improve the engagement of the employee.

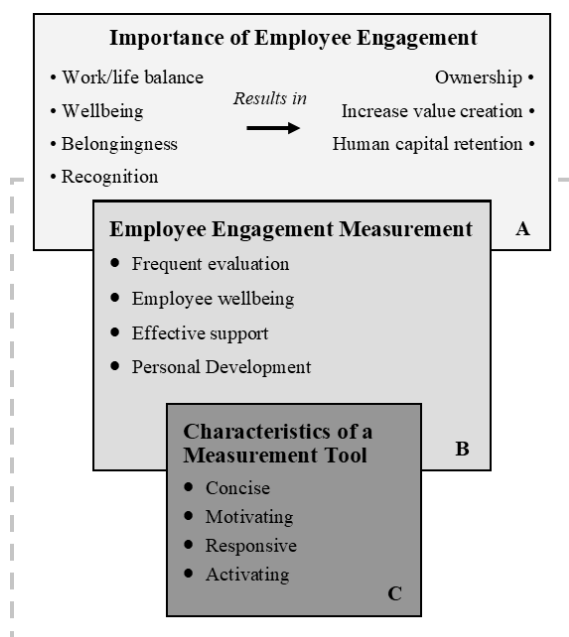


Figure 2: From Importance of Employee Engagement to Characteristics of How to Measure it.

In this research, we explore the characteristics of the measuring tool (block C).

3. METHODOLOGY

To address the research goal, we made several methodological choices, which we justify in this chapter.

Choice of a Software Package

Several technical tools have been developed to collect data on employee engagement. In the following section, we discuss which tool is chosen to investigate the characteristics.

To identify the tools, ‘measuring employee engagement’ is used as search term in search engines in April 2019. Based on the search results, we selected seven systems for a comparison. These tools are compared based on the feedback frequency, management approach, mission and value creation (see *Table 1*). The variable value creation is chosen to identify the differentiation among the competitors. The missions are stated to determine the goal and intended achievement of the companies. Feedback frequency affects the up-to-datedness of the measurements. Therefore, it is relevant for measuring employee engagement. The variable management approach of the digital tool clarifies the flow of information within the organisations of the users. We used the websites of the company as a source of information.

2DaysMood

2DaysMood is a company that collects feedback weekly from employees to measure continually employee satisfaction and commitment. With this up-to-date data, they state that managers can respond effectively on the feedback and measure its impact. Besides, it is possible to analyse per team, department or organisation.

CompanyMood

The main focus of CompanyMood is to improve employee satisfaction and retention with continuous feedback. Employees give weekly feedback in less than 30 seconds via the browser, the app or a stationary terminal. The manager gets access to advanced analyses and a clear visualisation of the work environment. Moreover, it offers integration with systems like

Microsoft Office 365 or the intranet of the organisation via their API.

Culture Amp

Culture Amp wants to make it easy to collect, understand and act on employee feedback. They achieve this through pulse surveys with analytics and action planning with regard to employee engagement. Employee experience is measured by marking employee milestones, to create opportunities to reflect and give feedback. Furthermore, Culture Amp has designed a framework that drives employee performance by aligning managers & employees, run objective evaluations and improving the organisation with data & insights.

Effectory

Seven feedback tools have been developed by Effectory to gather employee feedback. Those tools can be used to focus on a certain topic or gather feedback from a specific group of employees. Moreover, Effectory provides an online scan or workshops to get insights into team dynamics and to identify strengths and development opportunities. The platform gathers feedback when the manager requests it. Besides, the manager needs to act upon the collected information. The mission of Effectory is to help organisations in gathering, organising and implementing employee feedback.

OfficeVibe

This digital tool is a top-down based system that claims to bring the best out of the manager, in order to bring the best out of the team. OfficeVibe equips the manager with feedback from the team to proactively turn issues into conversations. It provides the manager with simple and visual weekly reports that identify the issues specific to the workplace. By offering advice and strategies to overcome identified issues, OfficeVibe asserts that it helps to improve the manager and the team.

Peakon

This data company claims to drive real change by giving managers personalised insights to improve their teams through a real-time dashboard that is weekly updated. Advanced segmentation of employee data based on manager, office, sales, performance etc. is the strength of Peakon. Furthermore, this digital tool features a data-driven industry benchmark, to compare the overall performance of the organisation’s culture against competitors. Internal benchmarking on different departments can be achieved through segmenting the data and comparing against internal averages.








VIGO

VIGO is a personal empowerment tool for the employees within the organisation. VIGO asserts that with this digital tool, employees can measure, track and analyse work energy. It analyses six personal work drivers: energy, space, challenge, support, results and growth. The employee reflects daily on these personal work drivers and receives monthly a personal dashboard indicating the results of the drivers. VIGO gives the employee insights and advices to improve work energy and fitness. The employee is responsible for reflection and providing feedback to the manager. VIGO’s ultimate goal is to give employees, teams and organisations insights in their work fitness and work energy and to activate them to take action on the gained insights.

Similarities and differences between systems

Comparison of different tools shows that the mission statements vary for every digital tool. The main goal of Company Mood, Culture Amp and Effectory is to gather and implement employee

Table 1: Sample of digital tools measuring employee engagement

	Feedback Frequency	Management Approach	Mission	Measurement variables	Claims for value creation
 2DAYS MOOD	Weekly	Top-Down	Positive working climate with high performing employees	Engagement, Happiness, Satisfaction	Analyse on different levels of the organisation
 CompanyMood	Weekly	Top-Down	Understand employees' concerns, moods and ideas	Mood reviews, feedback to managers	Integration of company systems through their API
 Culture Amp	On request	Top-Down	Make it easy to collect, understand and act on employee feedback	Employee engagement, experience and effectiveness	Collect, understand and act on employee feedback
 Effectory	On request	Top-Down	Help organisations in gathering, organising and implementing employee feedback	Intake research, innovative ideas, feedback to managers, outflow research	One platform with different feedback tools
 officevibe	Weekly	Top-Down	Empower managers with the tools they need to create greater workplaces	Employee satisfaction, feedback to managers	Offering manager advices and strategies to overcome identified issues in teams
 Peakon	Weekly	Top-Down	Enable everyone in an organisation to reach their full potential	Employee progression, employee satisfaction	Internal and external benchmarking
 VIGO	Daily	Bottom-up	Give employees, teams and organisations insights in their work fitness and work energy.	Energy, Space, Challenges, Support, Results & Growth	Daily individual reflection on personal work drivers

feedback, while 2Days Mood, Glint and Peakon want to improve employee performance. In general, all systems gather data from the employees digitally for the managers to act upon the insights. They achieve this by measuring employee engagement and employee satisfaction.

Most tools are designed for managers with a top-down management approach. Employee engagement and wellbeing is reasoned from a management perspective. Furthermore, the frequency of data collection is on average on a weekly basis.

However, VIGO deviates from the other tools. Instead of a top-down approach, VIGO makes the employee responsible for their own development and sharing the insights and experiences with others to make personal coaching and managing more effective. This self-reflection is based on a daily evaluation. Based on the this comparison, the research is specified by exploring the characteristics of VIGO.

Data collection

Before exploring the characteristics of measuring employee engagement, we conducted a background research on the company VIGO. The foundation of VIGO as a start-up is examined by means of the experiences of the founders. The

Table 2: Data collection

Respondents/source	N	Topics
Founders VIGO	2	Foundation of the start-up
Document Analysis	10	Branding, positioning and profiling of VIGO
Developers VIGO	3	System, automation and functionalities
Employee users VIGO	9	Employee satisfaction with VIGO
Manager users VIGO	4	Managerial experiences of VIGO

branding, positioning and profiling of VIGO is investigated through thorough document analysis. Knowledge on the system, the functionalities and automation of the digital tool is scanned through a meeting with the developers of the system, see Table 2. The experience of the users is investigated by using open-ended questions, to explore the user experiences. Therefore, we chose to collect the data by means of in-depth semi-structured interviews.

Two groups of users are the respondents of this research, the employees and the managers/coaches. The effectiveness of the digital tool is analysed from their perceptions. The structure of the interview for both research groups is adjusted to their use of the system. We questioned the employees on three main topics: practical use, personal insights and external communication. The structure of the interview with employee users can be found in Figure 5, p. 14. We questioned the managers and coaches about the employee insights, the team insights and the management insights (see Figure 6, p. 14). These topics contribute to the exploration of the four characteristics of the measuring tool.

- **Responsive:** We asked the employees how they assess VIGO app to conduct the daily evaluation. Besides, their use of the monthly dashboard is evaluated, as well as the tips and practical advices VIGO give based on the personal dashboard.

We asked managers how they assess the team dashboard that provide insights in the team performance. Moreover, the tips and practical advices provided by VIGO are evaluated.

- **Concise:** to determine whether data collection is *concise* and to the point, we asked the employees how they perceive the daily use of VIGO and whether they have gained more insights in the aspects that give or cost energy on an average workday. Moreover, employees are asked if they are more aware of their work fitness and if they have control over taking action based on the personal insights.

We asked managers how their employees perceive the daily use of VIGO and whether they have gained more insights in the aspects that give or cost energy on an average workday. Does VIGO contribute to more effective personal and team coaching?

- **Motivating:** The measuring tool has to *motivate* employees to share information on their engagement and to take action upon their insights. We questioned employees about their motivation to start using VIGO and what intrinsic or extrinsic motivation they have to continue using VIGO. To determine whether the managers and their employees are motivated by VIGO, the added value of VIGO to use it across the entire organisation is discussed. Moreover, we asked managers what their biggest challenge they identify for using and deploying VIGO.
- **Activating:** The employees are responsible to use the insights for targeted support by the manager. We questioned them if this responsibility is taken and whether the manager can provide effective support by means of the dashboard, to enhance personal development.

Interview analysis

We used the technique of open coding, axial coding and selective coding to analyse the interviews. First of all, we labelled and transcribed the interviews. Subsequently, all quotes related to the interview structure are gathered and categorised based on the structure. An open code was allocated to every quote. To identify relationships among the quotes, we clustered the open codes into axial codes. The conclusion based on the axial coding examines the four characteristics of the measuring tool and is proved by quotes from the selective coding.

Table 3 explains how the data collection is linked to exploring the characteristics of the measuring tool.

Table 3: Data collection based on theory

Elements from the theoretical framework	Employees	Managers	Document analysis
Concise	Gained insights, practical use	Employee insights	
Responsive	Practical use	Team insights	Functionalities
Motivating	Activation	Management insights	Branding, positioning and profiling
Activating	Activation	Employee & management insights	Branding, positioning and profiling

In total, we collected 91 open codes from the interviews with the employee users. These quotes are clustered in 15 axial codes, described in chapter 4.4 (p. 8). All the quotes of the employees can be found in the appendix (Table 4, p. 19).

54 open codes for the managers form the basis of the perceived characteristics of VIGO by managers. We clustered these quotes in 12 axial codes, which are elaborated in chapter 4.5 (p. 9). The quotes of the managers are elaborated in the appendix (Table 5, p. 22).

4. FINDINGS

Before elaborating on the experience of the users, we discuss the foundation of VIGO and its branding, positioning and profiling.

Motivation to establish VIGO

The document analysis has shown that VIGO was officially launched at the end of 2018. The founding partners shared with us several shortcomings that they saw in the field of HRM. First of all, they felt that the current approach of annual performance appraisal with the employee had a negative effect on the growth of the employee and the organisation. Despite the fact that the majority agrees that the annual performance appraisal is outdated, it is still a widely applied method. The founders of VIGO saw it as demotivating the employee to take responsibility and to gain personal insights for personal development.

Secondly, the founders of VIGO believe that employees let themselves be guided by the performance system of the organisation, without taking an initiative. They deprive themselves of opportunities for self-reflection, self-insight, more job satisfaction and faster development and growth. In their view, a manager should reject the traditional performance appraisals and challenge employees to take control of their own performance.

Thirdly, they talked about a disconnect between employees and managers. *“Managers believe that employees have their own responsibility and should raise the alarm if something happens. Employees, on the other hand, complain that they have no listening ear, which leads to frustration.”* In the opinion of the VIGO partners, this may result in unmotivated employees, employee loss due to illness and an outflow of employees because people do not feel engaged at work.

4.1 Intentional design and content of VIGO

We learnt from the conversations that observations of such developments in the HRM sector has led to the foundation of VIGO. VIGO, in the intentions of its founders, had to tackle these HRM disconnects. A system had to be created that would give the employee the control and the responsibility to get insights in the aspects that affect their workday and personal development. The employee should be motivated and stimulated to take action based on these insights.

To ensure that the employee gains insights by means of concise data collection, the VIGO founders examined several employee engagement models to choose the right factors the employee needs to be questioned about. One of these models is the Maslow's Hierarchy of Employee Engagement (Figure 8, p. 15) (Smith, 2014). Put it briefly, this model elaborates on employee engagement based on the five needs of the Maslow pyramid. Two needs are required to make sure that the employees do not get demotivated, namely survival and security. When employees only work for the salary, when they have more sick days than average and when they would leave the company if the opportunity arises, they are not engaged and demotivated for their job. However, if the employees acknowledge that they are part of the company and they are proud to work here, the employees feel belonged within the company and are therefore more engaged.

To be highly engaged employees, they need to feel important at work and know that they are a vital part of the business. Subsequently, employees can achieve self-actualisation if they can mean something to others and inspire them. Highly engaged employees love to work for their company.

Another model that was used to develop VIGO consists of the dimensions of employee engagement designed by Gallup. Gallup

states that the ability of the manager to meet a core set of employees' emotional requirements affects the productivity of the workplace. Therefore, a model that describes the four dimensions of employee engagement was designed (Figure 7, p. 15).

The foundation of the engagement hierarchy are the basic needs. If employees know what is expected from them at work and they have the right materials and equipment to do their work, they are more productive, cost-effective, creative and adaptive (Gallup, 2016). When basic needs are met and employees know what they get, they want to know what they give. How do they contribute to the organisation? It is the responsibility of the manager to define and reinforce the value of the employees.

When the individual value has been defined, employees need to feel that they belong and are important within their team. They need to trust the people they work with and know that others trust and value them. The employees need to know that their opinion counts and that their job is important in achieving the mission or purpose of the company.

The final dimension is the personal growth of the employee. Employees need to be challenged to learn new things and to find better ways to do their jobs. Therefore, managers need to talk with the employees about the progress, how their work is perceived and where their work is heading. Managers can learn what employees need by regularly reflecting on their progress.

The Maslow's Hierarchy of Employee Engagement and the Four Dimensions of Employee Engagement from Gallup are the two main models that have led to the model designed by the founders of VIGO. They recognised six drivers that affect the performance of an employee. Those drivers are energy, space, challenge, support, results and growth (Figure 3). According to VIGO, these drivers influence employees work experience and therefore their work energy and engagement.

Each of these six drivers consists of six sub drivers. The user of VIGO reflects daily on these drivers to map the aspects of work which costs energy and those that give energy on that specific workday. The insights gained by using VIGO and the personal dashboard can be used to take action and enhance work engagement.



Figure 3: VIGO six drivers with their sub drivers

4.2 Branding, positioning and profiling of VIGO

To establish VIGO in the market of e-HRM instruments for enhancing employee engagement, a well-designed strategy for branding, positioning and profiling is required. To achieve this, the goal and target group of VIGO was formulated.

Goal of VIGO

The main goal of VIGO is formulated as to make it possible for employees, teams and organisations to be engaged in their work by means of a personal empowerment-tool that give employees direction and control of their work energy, in order to perform optimally (IVRM reputatie, 2018). VIGO claims that it is an empowerer of employees, teams and organisations to be engaged in the company and perform optimally. With the personal empowerment-tool, employees can control and direct their own engagement, to get the best out of themselves and to retain human capital. VIGO wants to contribute to the wellbeing of professionals and the growth of the economy by enhancing employee engagement.

Target group

The document analysis has shown that VIGO wants to reach employees who are consciously engaged in personal development. Moreover, managers, coaches or directors that want to enhance employee ownership and engagement are part of the primary target group (IVRM reputatie, 2018).

Why VIGO

To determine the message of VIGO, they applied the 'why' technique. Why should one use VIGO? Six elements have been mentioned to position VIGO and to communicate where it stands for. The most important element is the control over work energy and happiness. Secondly, VIGO effectuates talent development and human capital retention. This leads to the third element, improved performance. The fourth element is the optimal use of human capital. When employees are engaged with the company, the sustainability of employability increases. The last element is the improved wellbeing of professionals that are more engaged in their job.

Reflection

The goal of VIGO and their core message has to be in line with the required characteristics of the employee engagement measuring tool. According to the document analysis, VIGO wants the users to provide insights that *motivates* the user to *take action*. Therefore, the intention corresponds to the motivating and activating role of the measuring tool.

4.3 Functionalities of VIGO

The preliminary scan of the VIGO tool has shown that the model of the six drivers serves as the basis of VIGO. These drivers are the measurement points, which are measured by a two-part system. The system consists of an application on a device, which is used by the VIGO users to review their workday. The user reflects on their day in three steps. First, they give an overall rating for their day on a scale from 1-10. Secondly, the users score the drivers by means of marking all the sub drivers with a negative, neutral or positive emoticon. Thirdly, the user can take notes to describe the day concisely. The screenshots of three steps in the app can be found in the appendix (Figure 9, p. 16).

When the user has filled in the application for one month, a dashboard is created with the personal insights. The components of the dashboard can be found in the appendix (Figure 10, p. 17). After every month, the users of VIGO are given an oral or written explanation about the results displayed in the dashboard.

4.4 Perceived characteristics of VIGO by employees

The success factor of the e-HRM measuring tool depends on the practical use of the system, the gained insights and the activation. To gain insights, the system has to be convenient and comprehensible for the user. Thereafter, the system needs to give the user new insights, which are implementable. Lastly, the users need to be activated to act upon their insights and take action.

To conclude whether VIGO meets these success factors, the interviews are analysed based upon this structure. Quotes from the interview are clustered into recurring subjects, which form the results from every factor.

Practical use

We asked the respondents about their experience from evaluating their work day by means of VIGO. Their impression of the dashboard with the output of the evaluation is formulated. We have identified the most frequently mentioned terms about the practical use of VIGO.

Moment of reflection – most respondents indicated that a daily moment of reflection adds value to their work day, to evaluate the job and executed activities on that day. It is also used to express oneself after frustrating days at work, as one of the interviewees noticed:

“I found it particularly useful to have a **moment of evaluation at the end of the workday.**”

Routine – It appeared that the daily evaluation also entails a negative side, according to several respondents. interviewee 6 says that “*it is quite a job to incorporate VIGO into your daily ritual*”. Some interviewee’s succeeded in building this routine: “*I travel by train, so it is moment of reflection on the train when you can look back on your day*” (interviewee 14).

Respondents say that it is necessary to commit yourself to it, despite the fact that it is not a very time-consuming activity. “*You have to commit yourself to it, but if you get a reminder on your phone, it is not a lot of work.*” – interviewee 2.

Repetitive – Some respondents stated that evaluating daily by means of VIGO is experienced as repetitive. Sometimes the situation has not changed in comparison to yesterday, which gives the feeling that they are doing unnecessary and repetitive work (interviewee 3). Interviewee 2 states that “*The biggest challenge for me is to score all sub drivers every day*”.

“I sometimes **experienced it as repetitive, because nothing much has changed in comparison to yesterday.**”

Pattern recognition – When the most important drivers are identified, the user is able to focus on these. According to interviewee 2, “*VIGO helps you to evaluate over a longer period of time which I have forgotten, to identify trends and patterns*”. Users state that this long-term assessment due to multiple data points can help to identify trends and recognize patterns over the past.

Complexity – The complexity of the dashboard and the interpretation of the results are sometimes seen as a constraining factor for the target group. Interviewee 6 says:

“I think the **dashboard is highly complex. I also think that it is only suitable for people with a high education.**”

Respondents say that VIGO is only suitable for users who are capable of identifying the interdependency of the different drivers and signalling trends over time. This cognitive ability is viewed as necessary to implement the gained insights and to make VIGO effective.

Some respondents had difficulties with interpreting the results due to the many functionalities. Interviewee 9 states that “*The diagrams and overviews were not very accessible. It was difficult to translate the overall picture to its interpretation.*”

In-depth insights – All respondents favoured oral or written explanation of the dashboard as it was essential for interpreting the results and implementing the insights they have gained. “*The dashboard provided a number of new insights*” (interviewee 4).

Gained insights

Work energy – All respondents indicated that they got more insight into the aspects that give them energy at work due to VIGO. For example, interviewee 4 identified “*a correlation between my achieved results on a day and how I experience that day*”. He noticed that the driver ‘result’ had a large impact on the workday.

The top and bottom three is perceived as a useful overview to determine aspects that influence the workday. For instance, the written notes explain why the low-scored day was perceived in that way, which makes the user reflect on these causes.

“Thinking about the **drivers creates awareness of the aspects that affect your workday.**”

Awareness – Comparing the current situation with the past gives users the opportunity to be more aware of their work fitness, according to respondents. A trend that points out declining average day scores and red coloured drivers, makes alarm bells ring. Daily reflection on the drivers helps to be aware of the aspects that affect the workday. “*VIGO encouraged me to do a self-reflection on how I am doing*”, interviewee 3.

Improvements in daily work life implementation – Respondents say that their insights led to the implementation of changes in daily life. “*Identifying the aspects that affect your workday helps to focus and take action on those aspects that have the severest impact*”, according to interviewee 1.

The strategy of this implementation differs. Some users prefer to take personal action rather than involving other people, while others discuss it with their coach or manager.

Interviewee 2 describes VIGO as “*a tool to monitor and analyse trends, but not to take structural and concrete action*”.

Activation

When the personal insights are gained, it is important that users act upon the insights. We asked the users if they use the

dashboard to raise insights, problems or needs with the coach or manager.

Personal development – Employee users state that VIGO helps to reflect on their workday, which according to interviewee 5 “*contributes to the mental and physical fitness*”. It is a tool that helps you to slow down in the hectic daily life, but it does not improve the abilities of employees. The soft skills with regard to self-reflection are trained.

Express – Most respondents discuss their findings with a coach or manager on a regular basis. The measurements of VIGO are seen as helpful to take into this conversation. The gained insights by VIGO “*helps the employee to ask more direct questions towards the manager*” (interviewee 3). The employee can put more clearly into words what he or she needs, which can be proved by means of the gathered data by VIGO. According to interviewee 6, VIGO offers the employees a language to express themselves towards the coach and to indicate their needs.

“Because I could now see it so well, I could **put it into words**. That's very valuable, VIGO gives you a **language**.”

Effectiveness – respondents mention that when the insights are gained and implemented, they perceive the goal of VIGO as achieved. During the first month, the users get familiar with the system and receive their first dashboard. The second and third month the insights are gathered from the reflection moments and the dashboard of VIGO. When these insights are shared with the coach or manager and the user has acted upon the gained insights after four or five months, most of them do not see the added value of continuation. According to interviewee 5, “*if VIGO lasts longer than three months, it must look at other goals*”, such as analysing team performance over time or team benchmarking within the company. Interviewee 12 says that “*I filled VIGO in for two to three months. After that, I did not gain new insights*.” However, “*When the circumstances change, I would use it again*”.

Intrinsic motivation – several factors that give intrinsic motivation to the users are mentioned. First of all, the dashboard that displays the results of the previous month motivates users to fill in the daily evaluation, which is driven by curiosity. Besides, interviewee 1 indicated that “*it is my personal wish to gain more insights and to pay more attention to my working days*”. Moreover, the employees are able to have more constructive conversations with the coach, which motivates them to use VIGO.

“By **filling in VIGO**, I am able to have **better conversations** with my **coach**.”

Extrinsic motivation – The notifications given by the app are an extrinsic motivation factor to fill in the daily evaluation. Besides, the personal coach of some respondents stimulates them to use VIGO as a tool for their monthly conversation.

4.5 Perceived characteristics of VIGO by managers

We asked the managers about their experience of VIGO from their perspective on employee, team and managerial insights. We have identified the most frequently mentioned terms on these three levels.

Employee insights

Value of reflection – the open codes mentioned by managers are the daily evaluation and devotion. Managers say that the power of the instrument is filling it in every day, instead of from time to time. Sometimes it is tempting to skip the evaluation due to a busy day, but those days are the most relevant to evaluate. “*it requires people to continue to fill in VIGO very devotedly*”, interviewee 13. Otherwise, the output of the dashboard is limited.

when employees use VIGO structurally, managers state that it gives them insights about how they use their energy. According to interviewee 11, “*the power of VIGO is a conscious reflection moment of the day, because you can identify the connections and actually intervene*.” However, employees need time for contemplation to comprehend the insights and to apply them.

Concretize – Due to the insights of VIGO, managers have a more concrete conversation. “*You can look back and fill in why you think you had more or less energy. This [VIGO] gave more concrete tools to expose the pain points or the positive sides*”, said interviewee 6. You can intervene on the factors that influence your day.

Interviewee 9 states that VIGO is “*a kind of diary, so you can make it a lot more concrete. You can take action on it*.”

“You can **intervene** much more demonstrably on the **factors** that **influence** what makes a **day** an eight or a four.”

In-depth discussion – A coach pointed out that VIGO was for his clients absolutely the guideline during their coaching sessions. More depth in the conversations was gained. This requires an active monthly discussion with the manager or coach according to interviewee 7. Coach sessions are more effective when the employee has prepared the conversation, for which VIGO can be a tool. Furthermore, “*VIGO helps to indicate how an employee feels, what goes well and what goes wrong, and how someone experiences things*” (interviewee 12).

Furthermore, VIGO provides factual input for the conversation with the employee. Interviewee 9 states that “*with VIGO, you can go to one specific incident or pattern in a very focused way, because it is really documented and substantiated with facts*”.

“I think that if people use it **actively**, which is an important **condition**, new **insights** are gained which you can use to **discuss** concrete improvement with **each other**.”

Frequent data collection – differentiation and objectification are two open codes that describe the value of frequent data collection. 6 says that “*VIGO's daily measurement points allow you to differentiate very well, you can nuance much more what is actually going well and not going well*.” VIGO objectifies the perspective of an employee on their own situation.

“*Normally, when you talk to people as a coach, you hear what is really in their top of mind*”, interviewee 6. By identifying trends, employees can gain insights of which they were not aware yet.

“VIGO's biggest gain is **objectification**. What employees are concerned about at the moment, does not have to be the big problem. **VIGO captures trends.**”

Employee attitude – Interviewee 11 noticed that “*if employees or clients see VIGO as an obligation, then nothing will really come out of it.*” The employee needs a personal drive to develop himself. Intrinsic motivation is important to enhance the impact and effectiveness of VIGO.

Team insights

Conversation stimulation – The team dashboard has generated conversations for several project teams. Furthermore, interviewee 6 thinks “*that it is a great added value when it comes to managing the fitness of your project team members.*” These insights can help the manager to act upon alarming trends.

Interviewee 11 says that “*cooperation within a team can improve if people are more individually aware of what gives them energy.*” Furthermore, the dashboards stimulate the team members to share more personal insights that are less top of mind (interviewee 13). This created more in-depth conversations. Interviewee 12 noticed that “*the effectiveness of the team dashboard depends on whether every one fills in VIGO every day.*” To evaluate the team dashboard, it is important that all participating team members fill in VIGO.

“If you know what **gives or takes each other energy**, you can **anticipate** on it.”

Team scores – Employees judge in different ways (interviewee 12). Some score their day with an eight if it was excellent, while others give it an eight when it was okay. This influences the average scores of the team dashboards. According to interviewee 13, the trends on a shorter term were less useful, because the average scores fluctuated between a 7.0 and 7.5. when the scores of the employees are averaged, the fluctuations are not significant anymore.

“The **effectiveness** of the **team dashboard** is partly **determined** by the **organisational structure.**”

Organisational structure – the effectiveness of the team dashboard is partly determined by the organisational structure. Some teams do not always work together or they participate in different projects with different team members. If one project is making progress while another encounters issues, the projects cannot be evaluated differently by the employee.

Managerial insights

Achieve full potential – According to interviewee 13, “*if someone uses VIGO seriously in their personal development, they can better reach their full potential within the organisation.*” If you identify through VIGO what you encounter in your daily work life, you can work on these aspects and therefore deal with the situation better. This is only of added value “*if the employee chooses to act based on what he or she sees in collaboration with his coach*”, according to interview 12.

Role of management – To achieve full potential, “*management has to be prepared to act upon the gained insights from VIGO*” (interviewee 6). Employees can perceive VIGO as a tool that substitutes the attention of the manager for the employee. It is important to prevent this by stimulating the employee to share the gained insights, in order to implement them.

“Whether people can reach their **full potential**, depends on if they go to their **manager** and how the manager **act upon it.**”

A manager indicated that the organisation needs to be open to act upon the insights if an employee has gained insights which give reason for action.

Organization-wide motivation – Several managers identified a recurring challenge, namely “*that you must be able to show people it's added value. If they do not see that themselves, they will not use it*” (interviewee 10). If employees do not use it actively, VIGO loses its effectiveness. Interviewee 13 notice that “*it is sometimes difficult to convince people or to explain why they should use VIGO*”. Managers think that if the employees are going to use VIGO, trends can be identified and action can be taken. However, the employee needs to have intrinsic motivation for daily evaluation by VIGO.

5. DISCUSSION

The descriptive analysis forms the basis of the assessment of the characteristics of VIGO. We elaborate on the four characteristics that a measuring tool has to possess in order to measure employee engagement successfully.

Concise

According to the respondents, the output of the collected data gives renewing and interesting insights with respect to their sources of energy at work. The daily moment of evaluation is perceived as the added value by VIGO, although it requires a routine to reflect at a fixed time of the day. Managers and coaches indicate that VIGO provides specific and factual input for their conversation with the employee. VIGO acts as a kind of diary which makes the conversation more concrete. It shows patterns and trends in the condition of the employee. In general, the daily evaluation by means of VIGO is perceived as concise by the users.

Responsive

Employee users perceive the application as clear and self-evident. The notes that describe the workday help the user to recall the events on specific days when reflecting on the results provided by the dashboard.

According to employees, the dashboard is complex to comprehend. They experienced difficulties interpreting the output from the figures and recognising relationships among the drivers. The oral or written explanation of the dashboard that is explained in the VIGO Insights is vital for understanding and interpreting the results. When the users are able to comprehend the dashboard, it helps to recognize patterns and trends through daily data collection.

Managers indicate that it is valuable to monitor the fitness of the project team members. However, when the scores of the employees are averaged, the results and trends are not significant anymore. Moreover, employees rate their day differently, which makes it difficult to compare the output in a team dashboard.

Therefore, the team dashboard is less effective than the personal dashboard.

Motivating

Employees state that they are motivated to use VIGO intrinsically and extrinsically. The intrinsic motivation is driven by the monthly dashboard which gives insights in their work energy. Users are curious about the results and use it as an input for their conversation with the coach. However, when no new insights are obtained, the intrinsic motivation decreases.

The extrinsic motivation consists of the notification that appears in the app at the end of the day. Moreover, stimulation by the manager or coach can motivate the employee to use VIGO.

Managers identify the challenge to convince and motivate all employees to use VIGO. They emphasize the importance of the intrinsic motivation by acknowledging the added value of VIGO.

Activating

Several employees indicate that VIGO activates them to work on their personal development by reflecting on their workdays.

The gained insights from the dashboard helps the employees to express their needs towards the manager or coach. Employees state that this activates them and their manager to act upon the insights and improve the work environment.

Employees identify several stages in the activation (*Figure 4*).

Stage 1: In the first month of using VIGO, the user evaluates daily by scoring the drivers in the app. They do not have a dashboard yet that identifies trends, but this daily reflection activates the user already to think about the work experience.

Stage 2: During the second and third month, the dashboard gives insights in the aspects that influence the work experience. The user learns to interpret the output and analyse the trends. These insights can be used to improve the aspects that affect daily work.

Stage 3: When the personal insights are gained, the user can discuss them with the manager and take action upon them.

Stage 4: If no other insights are gained, the user has no lead to implement further improvement. Therefore, they cannot take action and the effectiveness of VIGO decreases. The timeframe of this stage differs per user.

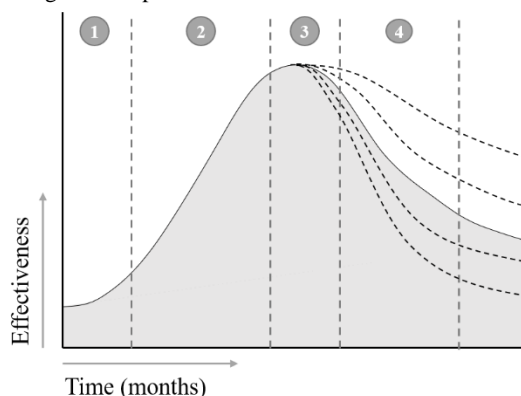


Figure 4: Stages in activation in implementing insights

When working conditions or other circumstances change, some users state that it would be useful to use VIGO again.

Managers indicate that employees have to take initiative and be open about the gathered insights in order to act upon them. If employees share their insights with the manager or coach and together determine a plan of improvement, employees work on their personal development and can achieve full potential within the organisation.

Reflection

Based on the analysis of the characteristics of VIGO, we conclude that the system meets the requirements for *concise* data collection. The complexity of the dashboard and its interpretation affects the responsiveness of the system. However, the personal guidance through all elements of the dashboard and the insights which can be derived from the dashboard make the system comprehensible and interpretable, thus *responsive*.

Current users indicate that they are motivated by the new insights and share them with the manager or coach, but managers experience difficulties in motivating the entire organisation to collect and share information on their engagement. VIGO needs to cooperate with the management to establish organisation-wide motivation, in order to be a *motivating* measurement tool.

Employees are activated to take action on the gained insights and managers and coaches use the personal dashboard as input for coaching sessions. Therefore, we conclude that VIGO is an *activating* tool.

Traditional Engagement Surveys vs. Digital Employee Engagement Measurements

We observed several shortcomings of traditional engagement surveys. The frequency of data collection is insufficient and the surveys are generally seen as tedious and demotivating. By the time the collected data is analysed and the development plans are implemented, the data is already unrepresentative. This results in a misfit between managerial interventions and employee needs.

According to this research, the digitisation can lead to improvements with regard to measuring employee engagement. The level of engagement is measured on a frequent basis and the collected data is processed and displayed instantly. Managers and employees are given a tool that helps them to identify patterns and trends in their work engagement. This identification activates them to improve the work environment.

Theoretical implication

From the theory, we determined four required characteristics of the measurement tool. The interviewees indicated that digitisation leads to innovation and new technological possibilities in the e-HRM sector. However, continuous emerging technologies can evolve in fully automated and artificial intelligent systems, which have lost the human dimension. This could be a possible danger, because the human interaction with respect to the dashboard and the gained personal insights is perceived as indispensable. Therefore, the characteristic 'humane' can be a required characteristic for the employee engagement measurement tool.

Limitations

We identified several potential limitations in this research. To investigate the digitisation in measuring employee engagement, one tool had to be selected to conduct research on. This choice is justified by a thorough comparison of the current systems offering employee engagement measurement tools. This comparison gave reason to analyse VIGO.

The social desirability bias can occur due to the tendency of interviewees to answer questions in a manner that is viewed favourably by others. To address this limitation, we informed all interviewees that the information is handled strictly confidential and will not be shared with third parties. Only their experience and opinion is relevant for this research.

The research group consists of fourteen users of VIGO. A possible limitation could be that the interviewees do not represent a variety of current and potential users. To deal with this

limitation, users from seven different companies were interviewed, to ensure diversity in the research group which gives different perspectives of the measurement tool.

Future Research

The technological developments in the HR sector have several consequences. The data has to be processed adequately in order to have added value for the company. Therefore, the manager has to be able to analyse and interpret the collected information and translate this into managerial actions. Future research should consider if this requires new competencies from the manager and how it affects the role of the manager towards the employee.

Measuring employee engagement digitally requires a database with personal data from the employees. The digital tool needs to determine who is able to access the data. Managers need to be able to act upon the results from the gathered information, while employees need to feel that they can express themselves freely without being confronted by the manager. Finding the optimal trade-off between managerial access to the data and perceived freedom of expression is an interesting topic for future work.

The level of engagement and how the work environment is perceived entails the personal experience of the employees. It is difficult to measure it appropriately with standardized and automated questionnaires or other pre-configured evaluation methods. Therefore, future research should examine how artificial intelligence can contribute to personalised and adjustable measurement methods to get closer to the core of the issues that affect the engagement of the employees.

Interviewees indicated the importance of human interaction integrated in the process of measuring employee engagement. Further studies should investigate that to what extent measuring employee engagement is more effective when human interaction is involved, to determine how humans and technology can complement each other in measuring employee engagement.

Practical Recommendations

According to the respondents, the effectiveness of VIGO decreases when the gained insights are implemented. We recommend the founders of VIGO to design a new phase in which the results can be benchmarked within project teams, departments or the entire organisation. This internal benchmarking might incentivize users to discuss the results and improve the work environment. Besides, the organisational needs are exposed.

The organisational structure affects the usability of VIGO. Some employees operate in different project teams, which makes it difficult to evaluate the day. We recommend the developers of VIGO to design a new feature that makes it possible to evaluate project-based.

Employees indicated that they have difficulties with making a routine of VIGO. If this is the case, the data is less representative which has a negative effect on the output in the dashboard. We recommend users before they start with VIGO to choose a moment on a workday, after a specific sequence of activities or at a specified time for to fill in VIGO, to ensure structural daily evaluation

Due to the standardized set of questions, users experience the evaluation sometimes as repetitive. We recommend the app designers to implement a feature which changes the order of the questions randomly and describes the sub drivers in different ways. Furthermore, the questions can be personalized by means of artificial intelligence based on the fill in behaviour of the user.

6. CONCLUSION

Traditional employee engagement surveys have lost their effectiveness. Technological developments led to innovative ways to measure employee engagement. We explored the characteristics of an employee engagement app. Based on the importance of engaged employees and the shortcomings of the traditional engagement surveys, a model that identifies the required characteristics of a measurement tool is developed.

To determine whether the digitisation in the HR sector leads to improvement, we analysed VIGO as an employee engagement measurement tool. The four required characteristics formed the basis of the methodology. Based on the results of the research, we conclude that VIGO meets the required characteristics. Therefore, VIGO is a successful substitution for traditional engagement surveys.

7. ACKNOWLEDGEMENTS

I would like to express my very great appreciation to prof. dr. Tanya Bondarouk and dr. Huub Ruël for their valuable and constructive suggestions during the planning and development of this research work. Their enthusiastic encouragement and useful critiques helped me to write this thesis.

I would like to thank VIGO for their assistance with the collection of my data. I wish to acknowledge the interviewees for their willingness to give their time.

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9. APPENDIX

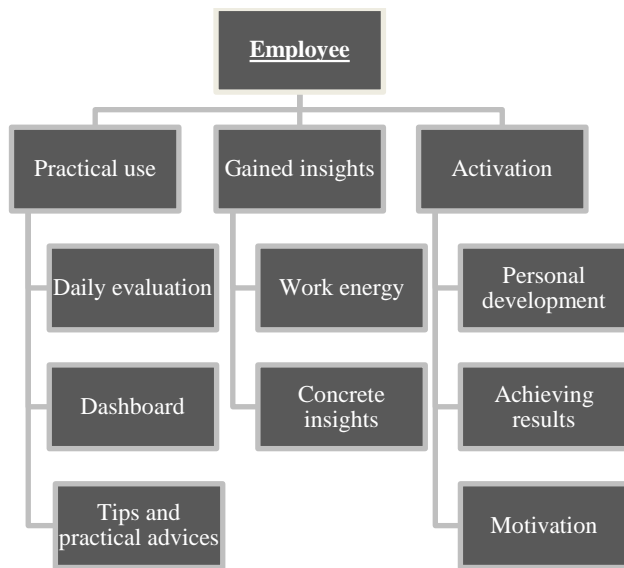


Figure 5: Structure interview employee users

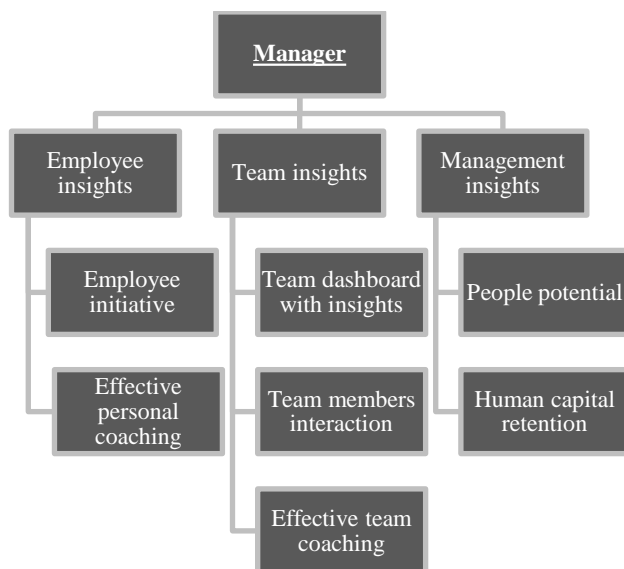


Figure 6: Structure interview manager users

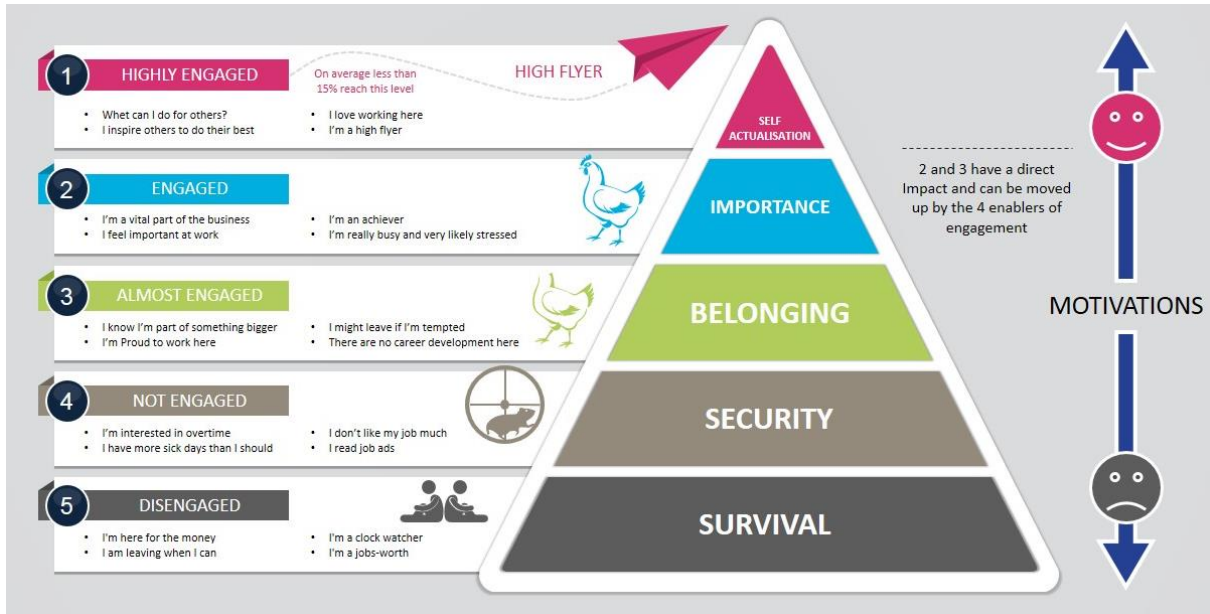


Figure 8: Maslow's Hierarchy of Employee Engagement



Figure 7: Four Dimensions of Employee Engagement
(Gallup Inc., 1993-1998)

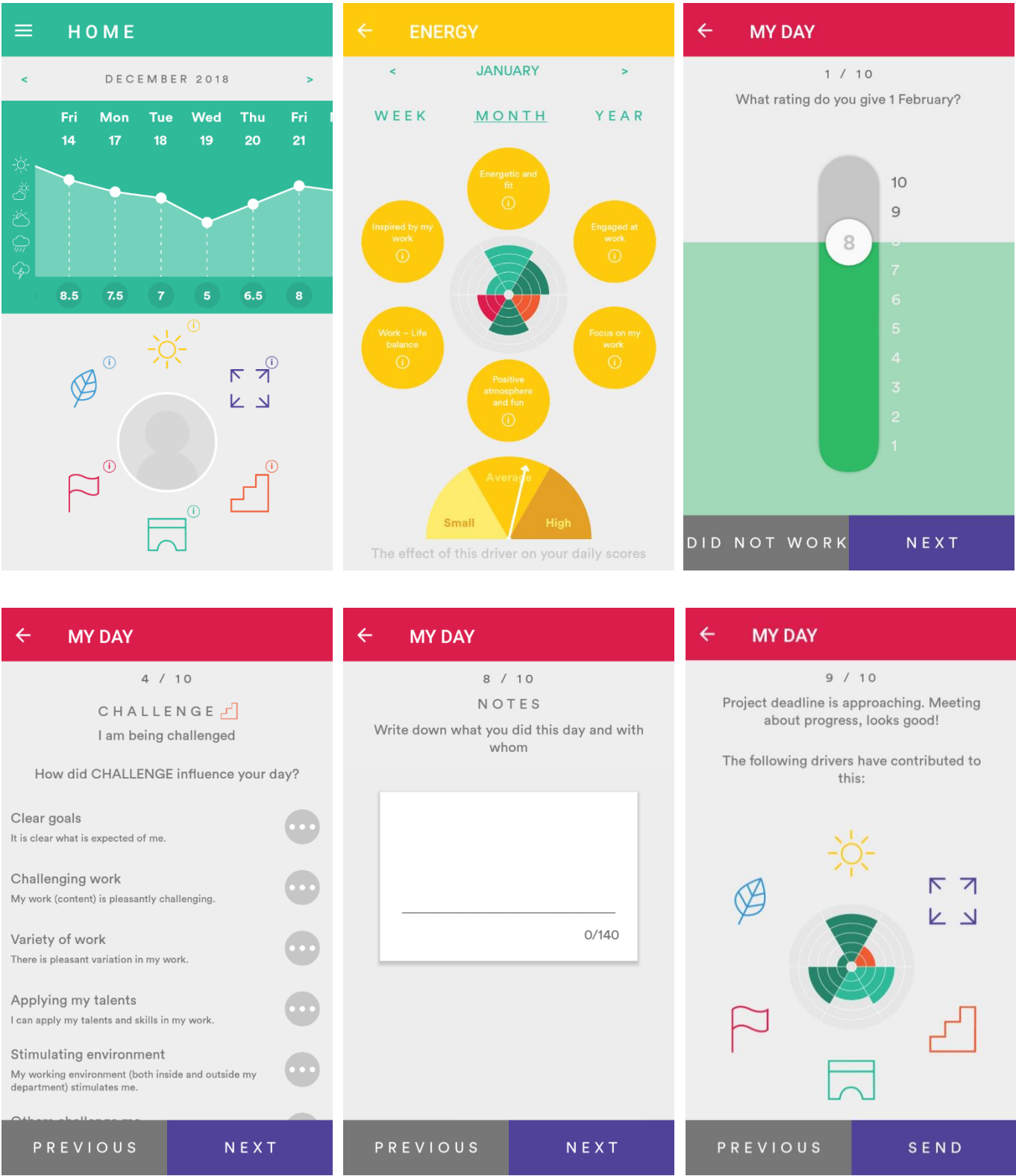


Figure 9: Screenshots VIGO app



Jack Miller
patrick@madx.nl
Log out



PERSONAL DASHBOARD

Month

December 2018

AVERAGE DAILY SCORE

7.3

1

DAILY SCORES



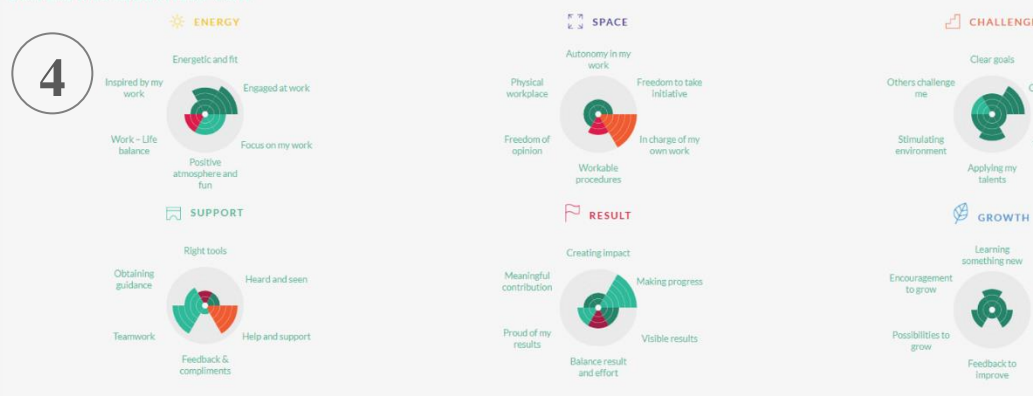
DISTRIBUTION DAILY SCORES



DRIVERS VIEW: WHAT IS MY SCORE ON THE DRIVERS



DRIVERS AND SUBDRIVERS VIEW



INSIGHT IN TOP 3 (BEST DAY SCORES) AND BOTTOM 3 (WORST DAY SCORES)



MOST USED WORDS THIS PERIOD



AVERAGE SCORE PER DAY



FILLED IN BEHAVIOR



Figure 10: Screenshot VIGO dashboard

1. **Average daily score** – The average daily score shows the average score of that period. Furthermore, it displays a line graph of the scores of the selected timeframe.
2. **Distribution of daily scores** – The bar chart in the dashboard shows the distributions of the daily scores for the selected period.
3. **Drivers view** – A pie chart shows the score on the six drivers. Additionally, the personal order of the drivers from important to insignificant is displayed, as well as the order of which drivers that has been scored the most.
4. **Sub drivers view** – This overview goes deeper into the sub drivers. A colour scale is used to show which drivers have been scored negatively or positively. The amount of coloured bars per sub driver represents the frequency with which the sub driver has been scored. By clicking on the pie chart, the influence of the driver on the daily score is displayed. The user can identify the driver that has the most effect on their workdays.
5. **Insight in top and bottom three days** – Below the sub drivers view, the three days with the highest scores and the three days with the lowest scores are shown. Furthermore, the scores allocated to the drivers are summarised, to identify the drivers that had an impact on the workday.
6. **Average score per day** – This bar chart presents the average score per day of the week. This information could help to recognise patterns in the week, for example low scores on Monday or high scores on Thursday. These insights can give incentive to change negative patterns.
7. **Filled in behaviour** – Three pie charts with a percentages graphically display the behaviour of filling in the application. The first chart shows the percentage of days that have been filled in, including sick, leave or other days. The second chart shows the amount of worked days which has been filled in and the last chart shows the amount of notes that has been filled in for worked days.

Table 4: Sampled quotes perceived characteristics by employees

Topic	Open coding	Axial coding	Quote	Interviewee
A. Practical use				
Daily evaluation				
	Helpful	Moment of reflection	I found it helpful to answer my personal questions.	Interviewee 1
	User-friendly		I find it user-friendly and I like that you are forced to think in a playful way what you thought about today.	Interviewee 3
	Release		After some days, especially frustrating days, it can also be nice to be able to express yourself.	Interviewee 4
	Satisfaction		it is nice to have a moment of reflection, whether you are satisfied with your work and activities.	Interviewee 5
	Reflection moment		As a coach, I think a moment of reflection is very valuable.	Interviewee 6
	Daily and practical		Especially the daily and practical part really appealed to me.	Interviewee 8
	Evaluation		I found it particularly useful to have a moment of evaluation at the end of the working day.	Interviewee 10
	Specific drivers	Pattern recognition	When your most important drivers are identified, you can score only those to see a trend.	Interviewee 1
	Long-term memory		VIGO helps you to evaluate over a longer period of time which I have forgotten, to identify trends and patterns.	Interviewee 2
	Challenge	Repetitive	The biggest challenge for me is to score all sub drivers every day.	Interviewee 2
	Repetitive		I sometimes experienced it as repetitive, because nothing much has changed in comparison to yesterday.	Interviewee 3
	Sufficient data points		In order to really gain value from the insights, VIGO must have sufficient data points to create good insights.	Interviewee 6
	Reminder	Routine	You have to commit yourself to it, but if you get a reminder on your phone, then it is not a lot of work.	Interviewee 2
	Skip evaluation		I sometimes skip it because I think, I just don't have the time or desire, or I think it doesn't add much.	Interviewee 2
	Forget		I notice that I sometimes forget filling in VIGO. Then I often do it the next day in the morning.	Interviewee 5
	Routine		It is quite a job to incorporate VIGO into your daily ritual.	Interviewee 6
	Routine		Sometimes I skip a few days, and then I look back. Then I still fill it in. It is not yet completely in my daily routine.	Interviewee 7
	Oblivion		You get a notification at the end of the day to do it, but occasionally you forget.	Interviewee 8
	Automatic		It becomes almost a sort of automatic.	Interviewee 9
	Daily completion		I do not see the daily completion as a direct benefit, but afterwards the result of the completion and the conversation about it.	Interviewee 9
	Built reflection routine		VIGO helps y you to build in a moment of reflection every day.	Interviewee 14
	Train		I travel by train, so it is a moment of reflection on the train when you can look back on your day.	Interviewee 14

Topic	Open coding	Axial coding	Quote	Interviewee
Dashboard				
	Comprehensibility	Complexity	When I opened the dashboard, I thought, what on earth does this mean? It takes time to comprehend it.	Interviewee 1
	Evaluation session		A team-wide evaluation session helped to understand the VIGO dashboard.	Interviewee 1
	Complexity		Some things were a bit more complex to understand, but in principle, it works well.	Interviewee 4
	Highly complex		I think it is highly complex. I also think that it is only suitable for people with high education.	Interviewee 6
	Accessibility		The diagrams and overviews were not very accessible. It was difficult to translate the overall picture to its interpretation.	Interviewee 9
	in-depth	In-depth insights	The dashboard was a nice way to gain more overview and analysis.	Interviewee 3
	Insights		The dashboard provided a number of new insights.	Interviewee 4
	In-depth feedback		I found the in-depth questions included with the dashboard the most useful. That conversation is essential.	Interviewee 7
	Monitoring	Pattern recognition	VIGO is a good monitoring tool and a good way to compare your current situation with the past.	Interviewee 2
	Discover patterns		It provided insights, because you have multiple data points so you can discover patterns and trends.	Interviewee 5
	Trend		I got insights in a kind of trend in positive or negative evaluated workdays.	Interviewee 14
B. Gained insights				
Work energy				
	Drivers	Insights work energy	Thinking about the drivers creates awareness of the aspects that affect your workday.	Interviewee 1
	Exposure		VIGO has exposed aspects that gives energy on a workday.	Interviewee 1
	Lack of energy		I stated in the notes that I was sitting in all sorts of useless meetings all day long. Then I thought, oh yes, that was that day.	Interviewee 3
	Result driven		I have seen that I am driven by good results, there is a correlation between my achieved results on a day and how I experience that day.	Interviewee 4
	VIGO insight		So at a certain point I said, guys, VIGO tells me that I give the lowest figures on Monday, due to the chit-chat.	Interviewee 6
	Structured goals		VIGO has helped me to set more structured goals.	Interviewee 6
	Result-oriented		Due to VIGO, I notice that I am much more result-oriented than I expected.	Interviewee 7
	Interdependency		I notice that I am very sensitive to results. The actual and concrete delivery of results, directly affect the driver of energy.	Interviewee 9
	Teamwork		I get energy from doing a lot of teamwork, which I discovered by means of VIGO.	Interviewee 14
	Poor sleep		There were not many bad days, but the days on which I scored low were related to poor sleep.	Interviewee 14
Awareness				
	Period comparison	Awareness	More awareness of work fitness by comparing different months on the VIGO dashboard.	Interviewee 4
	Recognition		when I say today was a mentally or physically less fit day, and if I have had that for a few days in a row, I therefore take action earlier.	Interviewee 5
	Self-reflection		VIGO encouraged me to do a self-reflection on how I am doing.	Interviewee 3
Concrete insights				
	Emphasize	Improvements in daily work life implementation	Identifying the aspects that affect your workday helps to focus and take action on those aspects that has the severest impact.	Interviewee 1
	Monitoring tool		VIGO is a tool to monitor and analyse trends, but not to take structural and concrete action.	Interviewee 2
	Application		I have even made a number of changes to my working life, based on the results of VIGO.	Interviewee 3
	Change implementation		It can't be that I only have red faces for a whole month for a specific question.	Interviewee 3
	Personal action		I take action on my personal insights, rather than involving other people in terms of actions.	Interviewee 5

Topic	Open coding	Axial coding	Quote	Interviewee
C. Activation				
Personal development				
	Reflection time	Personal development	VIGO helps to reflect on your interests. In our daily, hectic life, you sometimes need a tool to slow down.	Interviewee 1
	Scoring		How you score yourself and your day results in insights which leads to personal development.	Interviewee 3
	Work fitness		VIGO contributes more to my mental and physical fitness than improving abilities.	Interviewee 5
	Build routine		It is important to build a kind of routine, because it's about your own development.	Interviewee 8
Achieving results				
	Indicate shortcomings	Express	By discussing results with the manager, necessities can be put into words.	Interviewee 1
	Personal research		The employee himself can put more clearly into words what he or she needs, and also prove that with an investigation.	Interviewee 3
	Direct Questions		VIGO helps the employee to ask more direct questions towards the manager.	Interviewee 3
	Communication style		VIGO helps to express myself towards my coach, but it does not really help to choose the project that suits me best.	Interviewee 5
	Measurements		VIGO may be helpful to take measurements into the conversation.	Interviewee 5
	Paraphrase		Because I could now see that so well, I could put it into words. That's very valuable, VIGO gives you a language.	Interviewee 6
	Energy level		The manager can have an in-depth conversation with the employee about is level of energy.	Interviewee 7
	Answered questions	Effectiveness	I found it useful for the questions I had, but they were answered. I did not see the point of continuing further.	Interviewee 1
	Gain insights		I think that if VIGO lasts longer than three months, it must look at other goals, such as that you can see how the team is performing over time.	Interviewee 5
	Period of use		I have used it intensively for six months, I estimate. That has brought me a lot.	Interviewee 6
	Gained insights		I had the feeling that I gained all insights after three months. Then the motivation is gone.	Interviewee 10
	Change in circumstances		I filled VIGO in for two to three months. After that, I did not gain new insights. When the circumstances change, I would use it again.	Interviewee 12
Motivation				
	Intrinsic motivation	Intrinsic motivation	You need to be committed to complete the evaluation daily or regularly.	Interviewee 1
	Intrinsic motivation		It is my personal wish to gain more insights and to pay more attention to my working days.	Interviewee 1
	Curiosity		I was curious about the results of the dashboard.	Interviewee 1
	Coach conversation		By filling in VIGO, I am able to have better conversations with my coach.	Interviewee 2
	Results analysis		That a manager or coach comes back on the results from VIGO in a constructive conversation	Interviewee 7
	Knowledge		It is the knowledge that using VIGO is useful to me.	Interviewee 9
	Obligation	Extrinsic motivation	The notifications on my phone are an extrinsic motivator to fill in VIGO.	Interviewee 2
	Notifications		It is quite difficult to remain motivated. It feels like a kind of obligation, which I certainly don't always feel like at the end of my working day	Interviewee 4

Table 5: Quotes perceived characteristics by managers

Topic	Open coding	Axial coding	Quote	Interviewee
A. Employee insights				
Employee Initiative				
	Daily evaluation		The power of the instrument is in filling in every day, and not just from time to time.	Interviewee 11
	Burn-out	Value of reflection	In situations where things are not going so well, it is very nice to understand, what is the cause and when do I go home with a good feeling.	Interviewee 12
	Continuously		If you do not use VIGO continuously due to certain circumstances, you will get limited output from it.	Interviewee 13
	Devotion		If it gets very busy it is tempting to say, I am not filling it in today, while it may be very relevant. I think it can be valuable, but it requires people to continue to fill it in very devotedly.	Interviewee 13
	Obligation		if employees or clients see VIGO as an obligation, then nothing will really come out of it.	Interviewee 11
	Personal drive	Employee attitude	It varies per employee. Some may be somewhat stubborn, others use everything they can to develop themselves.	Interviewee 12
	Fill in behaviour		Well, I have to say, I work with a number of people and I met at least one employee I regularly asked, and he wasn't very active in filling in.	Interviewee 13
Effective personal coaching				
	Concrete		VIGO helps to make things concrete.	Interviewee 6
	Diary		It also a kind of diary, so you can make it a lot more concrete. You can take action on it.	Interviewee 9
	Act upon factors	Concretize	You can intervene much more demonstrably on the factors that influence what makes a day an 8 or a 4.	Interviewee 11
	Concrete conversation		I had more concrete conversations with the employees who used VIGO.	Interviewee 13
	Exposure		Sometimes you can look back and fill in why you think you had more or less energy, this gave more concrete tools to expose the pain point or the positive sides.	Interviewee 13
	Appraisal		An active monthly discussion with the manager or coach about the dashboard is required to gain personal development.	Interviewee 7
	factual substantiation		With VIGO, you can go to one specific incident or pattern in a very focused way, because it is really documented and substantiated with facts.	Interviewee 9
	Coach conversation		For our clients, VIGO was absolutely the guideline during their coaching sessions. More depth in the conversations was gained.	Interviewee 11
	Openness	Conversation stimulation	It depends on how open someone is for coaching. VIGO presents all the things that you fill in and how you experience things yourself. If you are not open about that, it will not be useful.	Interviewee 12
	Start discussion		The moment someone is open, then it can certainly serve as an additional tool to start the discussion.	Interviewee 12
	Indicator		VIGO helps to indicate how an employee feels, what goes well and what goes wrong, and how someone experiences things	Interviewee 12
	Preparation		Certainly, I think a coaching conversation is always more effective when someone has prepared. VIGO can be a tool for that.	Interviewee 12
	Active use		I think that if people use it actively, which is an important condition, new insights are gained with can use to discuss concrete improvement with each other.	Interviewee 13

Topic	Open coding	Axial coding	Quote	Interviewee
	Managing energy		VIGO helps to give people insights about how they use their energy.	Interviewee 6
	Reflection moment	Value of reflection	I think that is the power of VIGO, a conscious reflection moment of the day, because you can identify the connections and actually intervene.	Interviewee 11
	Insight		In this case, we could very well recall from VIGO that it was the lack of growth and too busy with day-to-day business to focus on your own development.	Interviewee 11
	Contemplation		You need time for contemplation to let the insights sink in and apply them.	Interviewee 11
	Objectification	Frequent data collection	VIGO's biggest gain is objectification. Where employees are concerned about at the moment, does not have to be the big problem. VIGO captures trends.	Interviewee 6
	Differentiation		VIGO's daily measurement points allow you to differentiate very well, you can nuance much more what is actually going well and not going well.	Interviewee 11
B. Team insights				
Team dashboard with insights				
	Team benefits	Benefits team dashboard	What I find very valuable about VIGO is that you can use it in a team setting. Then I think that it is a great added value when it comes to managing the fitness of your project team members.	Interviewee 6
	Conversation		The dashboard generated a conversation.	Interviewee 10
	Personal insights		The insights are for everyone personally. Then, of course, you can find out and talk about it, but you don't really need a team dashboard or anything else for that.	Interviewee 10
	Judgement	Team scores	People judge in different ways. You have people who give an 8, that's an okay day. Other people give an 8 when it has really been a super day.	Interviewee 12
	Average		I noticed that all scores were averaged and that fluctuations did not always say very much either.	Interviewee 13
	Trends		Personally, I found the trends in the slightly shorter term somewhat less useful. The average scores fluctuated a little between 7 and 7.5.	Interviewee 13
	Scattered teams	Organisational structure	The effectiveness of the team dashboard is partly determined by the organisational structure.	Interviewee 10
	Project evaluation		What the challenge was, in particular, we don't always work together. They work on all kinds of different projects.	Interviewee 12
Team members interaction				
	Awareness		I think that cooperation within a team can improve if people are more individually aware of what gives them energy.	Interviewee 11
	Agenda item	Conversation stimulation	we tend to immediately discuss the content of team meetings, but it can help to have this as a fixed agenda item, to check the team dashboard regularly.	Interviewee 12
	Anticipation		If you know what each other gives or takes energy, you can anticipate it.	Interviewee 13
	In-depth conversation		I noticed that there are other things that come up that are less top of mind, or that are perhaps more personal what you would not normally share. That gave you better conversations.	Interviewee 13

Topic	Open coding	Axial coding	Quote	Interviewee
C. Managerial insights				
People Potential				
	Positive Framing	Achieving full potential	The positive framing is, if you fill in your VIGO properly, A, you help yourself, B, you help the organization, because the insights you gain, we will actually look at that and we will also listen to it.	Interviewee 6
	Coach collaboration		If the employee chooses to act based on what he or she sees in collaboration with his coach, it is of added value.	Interviewee 12
	Personal development		I think that if someone uses VIGO seriously in their personal development, you can better reach your full potential within the organisation.	Interviewee 13
	Coping strategy		If you know what you are encountering through VIGO, then you can work on that and therefore deal better with that situation.	Interviewee 13
	Management	Role of management	Are you prepared as a manager and as an organization to act in areas where the VIGO drivers are the most effective for certain people?	Interviewee 6
	Substitution		The manager should ask me how things are going, but he lets VIGO do the work. That is the negative framing.	Interviewee 6
	Initiative		Whether people can reach their full potential, depends on whether they actually go to their manager and how the manager act upon it.	Interviewee 11
	Take action		I think that if someone knows what gives or doesn't give him or her energy which gives reason for action, the organisation is open to that.	Interviewee 13
Human Capital retention				
	Challenge	Organization-wide motivation	the challenge is that you must be able to show people its added value. If they do not see that themselves, they will not use it.	Interviewee 10
	Relevance		If the employee doesn't use it actively, it's hard to use VIGO. I notice that it is sometimes difficult to convince people or to explain why they should use VIGO.	Interviewee 13