Chapter 3
"Digital Lifestyle" – Future Employees and Customers

In the previous chapter it was shown that information technology will drive digitisation with exponential performance growth. Digitisation will penetrate the society and businesses extensively and will deeply change processes and organisations. These changes will encounter a very heterogeneous population of buyers and employees, with different training and experience in digitisation. More and more customers and all of today's career starters in the companies are part of the so-called Digital Natives generation. These are people who have grown up with IT-based services such as computer games, the Internet and Facebook as well as smartphones. The handling of these digital offers is natural to them and has shaped their behaviour.

In addition, so-called Digital Immigrants work in the companies. Many of them have learned how to deal with these new topics only in the adult age after their training or study. This group is also characterised by a certain behaviour as well as value systems and habits. Today's world of work and its forms of organisation, collaboration models, workplace design and established communication methods are often still oriented towards the "Immigrants". In a few years, however, the "Natives" will be the majority of the employees in the companies and as future customers. It is now up to the companies to recognise this situation in their workforce and to implement measures that will lead to the success of digitisation efforts involving all employees.

Before going into details on the subject of this chapter, the author would like to describe a personal experience which authentically illustrates the environment of digital natives. The 25-year-old son has completed a master's degree abroad. His entire studies, especially the labs and seminars, were based on the university's collaboration tools. These are software tools available on a secure platform which simplify collaboration between groups over the Internet, e.g. through audio and video conferencing systems, instant messenger services, project management tools, etc. Collaboration with his fellow students from different countries worked smoothly

and flexibly in different tasks with different teams. After completing his studies, his first step in searching for a job was the research in international online platforms. The comments on social networks were decisive in evaluating the offers.

In contrast to many of his fellow students, who were looking for the risk of young startups, his career start was in a consultancy company in order to gain insight into numerous companies with different tasks. As a place of residence, Frankfurt was chosen based on the main argument of good transport links. The room in a shared flat with two other career beginners of about the same age, who he did not know previously, was found quickly via social media platforms. Although every member of this community is on an above-average salary, none of them owns their own car and does not plan to buy one. For short distances they use the offers of mobility platforms, and public transport offers for longer distances, preferably low-cost long-distance buses – also because of the stable Internet connection on board. Necessary overnight stays are booked flexibly via sharing platforms, for example via Airbnb.

In addition, a small anecdote: While having a coffee together at the first visit a few months after moving in, unknown ringtones disturbed the conversation. After some search the source was found. At the internet connection in the box room actually was a traditional telephone, which was probably ringing due to an error call. None of the residents had used it so far or would know the landline number.

This personal experience outlines the challenges for companies to properly address Digital Natives as potential employees as well as potential customers. Therefore, the following chapter presents the background and the life setting of the natives in more detail and provides recommendations on how companies should set up and organise themselves today in order to attract, long-term motivate and develop natives as new employees. Also ideas and suggestions are presented on how to win them as customers. At the same time, the immigrants of course must be kept motivated and in the company.

3.1   Always On

In 2015, 3.2 billion people worldwide had access to the Internet, of which 2 billion live in developing countries. The global number of users had also grown exponentially from 400 million in the year 2000 in this case [ICT15] (see Sect. 2.2). Much of it are teenagers, so digital natives. As a comprehensive study on usage patterns in Germany illustrates, young people between 9 and 24 years of age state that they were surfing the Internet daily (85%), but at least several times a week (28%). As shown in Fig. 3.1, the "online rate" increases with the age of the adolescents, and the Internet use of the 18 to 24-year-olds is even at 94%. The same study shows that this age group most commonly uses Facebook, Google and WhatsApp [Bor14]. As expected, these offers address the three main areas of use: social networks, search
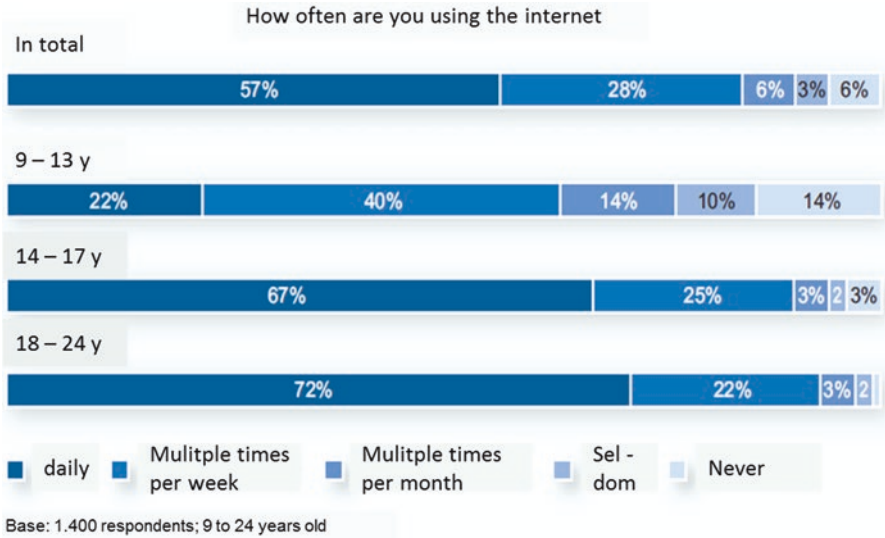
How often are you using the internet

Fig. 3.1 Use of the Internet by 9 to 25-year-olds (Boasted et al.)

and communication. In addition, commerce platforms are established, and video and sharing services are growing steadily. From the author's point of view, this is a very representative statement, which also applies to other countries in a similar way. In Brazil, USA or China, Internet use is even higher, in China with the corresponding providers Baidu and WeChat.

An interesting differentiating background to the user behaviour of young people, which is also relevant to companies, is shown in Fig. 3.2, based on the age group of 14 to 24-year-olds [Bor14].

The vertical axis divides the level of education of the group under investigation to low, medium and high grades, and the horizontal axis its basic orientation into the three classes of traditional, modern and postmodern. In this field, seven characteristic patterns of behaviour could be distinguished. The pragmatic and sovereign user groups which are operating on the Internet in a targeted and risk-aware manner, are assigned to the middle and higher education level, accounting for 54% of all users. The group is also ready for transformation, combined with a curious basic attitude and the willingness to change and to set off. This is followed by the group of the carefrees (18% of the population), rather from the lower education level and with less risk awareness while surfing the Internet. The groups of the confused, cautious and skeptical make up a total of 20% of the interviewees, which come from all education levels and are rather the traditional basic attitude. Here is also the group of the conscientious, yet rather from higher education levels.

This deeper analysis of the "always on"-mentality with the presented groupings on behavioural patterns is a viable approach that companies can project on to their
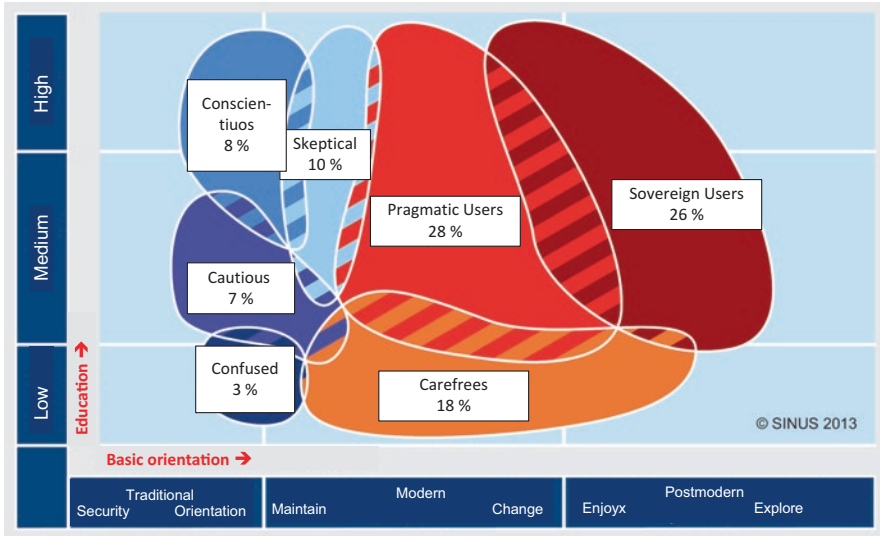
Fig. 3.2 User groups of the 14–24 year olds (Borchers et al.)

employees to derive, for example, communication and training programmes for digitisation projects. With these programs, it is important to integrate the digital natives with their creativity and with their knowledge of up-to-date communication and creation of up-to-date software solutions, thus making them the driving force behind the transformations.

3.2 Mobile Economy

Not only in the case of digital natives, are mobile devices increasingly becoming the standard tool for IT use. Forecasts predict that the global number of smartphones will grow to 3.2 billion devices in 2017 (number as of 2012: 1.6 billion phones), which means that twice as many smartphones as PC's are used. While the number of PC's will rather stagnate at the current volume or rather decrease in the long term, the number of smartphones will continue to grow significantly, thus further increasing the gap [Eva16].

It is important to understand that this smartphone hype not only replaces the PC as an access device to the Internet and IT solutions, but that these devices will establish a completely new usage culture. "Always on" is with the smartphones no conscious usage decision any longer, but rather the standard. A completely new economic system opens up through this with immense opportunities. The departure into this new business generation is also illustrated by Fig. 3.3 [Eva16].

The shown computer generations with their installed device volume, validated also in further individual studies and especially in the field of mobile devices with

Fig. 3.3 Computer generations with numbers of devices worldwide (Evans)

dynamic growth, also each represent a typical type of business. The time of mainframes, workstations and PC's represents traditional corporate structures. Companies were and still today are structured hierarchically, initially locally oriented and later also on a global scale. Mainframes and workstations are the driving force behind comprehensive application software, such as ERP and engineering solutions, which are accessed by employees from their fixed workstations during office hours.

With the arrival of smartphones the digitisation arrived in all areas of the enterprise as well as in daily personal life. They have the potential that literally every person in the world owns a smartphone. These mobile devices enable the so-called back-end systems to be accessed at any time and from different mobile workplaces. This leads to an intertwining of the private life and the work life. There is a growing number of special smartphone solutions (Apps) in the work environment which operate complementarily as a front-end to the corporate solutions, as well as in the private world, such as the popular weather, travel or stock market apps. These applications are easily and flexibly downloaded from shop platforms at low cost, or often even free of charge, financed through advertising. If these apps then stand the first quick test after the initial download, they usually remain on the device for further use.

At the same time, more and more digital natives are working in the companies, and new company cultures are evolving, frequently changing organisational forms, collaboration models and business models as well. This transformation towards a digitisation culture is discussed in Chap. 7 in detail since it is a key success factor for digitisation projects.

With the so-called "always on, mobile first"-culture, the usage behaviour changes drastically. The Internet, with its countless offerings, becomes an integral part of life. There is no longer a distinction between on/off-times. This is obvious when you look around in streets, cafes or even restaurants. Everywhere there are young people, however also more and more older digital immigrants, looking at their smartphone and repeatedly briefly interacting with the device. Various studies confirm this observation. As an example, the findings of an analysis are summarised and interpreted here [Mar15]. Eighty-eight times a day, users reach for the smartphone, which means that on average it is "checked" every 10 min, at an assumed wake-up time of 16 h per day. The total time of usage is approx. 2.5 h per day. An interaction with the smartphone takes less than 2 min on average.

On the basis of this insight, the question arises as to how, despite continuous short-term interruptions, a productive concentration can be maintained in order to achieve targeted work results. However, this is what young people and digital

natives are increasingly training. They will bring these skills to "speed multitasking" to the work in the enterprise, but not only the abilities, yet the derived expectations as well. Somebody who is constantly online and communicates in a highly reactive manner also expects this from colleagues in the company, his suppliers and business partners, and also as a customer. Answers in a dialogue are expected not only within a day, but rather within hours, and even up to "real-time".

3.3 "Real-Time" Expectation in the Mobile Ecosystem

When working on the web, real-time is not required actually, but loading times of websites should be below 3 s to meet user expectations. This value will reduce even further with increasing IT performance. Short loading times are an important criterion for acceptance to continue the work from a screen or to accept the apps as a solution on the smartphones. This also applies to the loading times of the user screens of application software in the companies.

This high communication dynamics, coupled with the expectation that dialogues are answered directly, but at least soon, is also transferred to other areas in the so-called mobile ecosystem. One example is the "sameday delivery" initiative by the online retailer Amazon, i.e. the delivery of ordered goods on the day of ordering. For this service, customers are willing to accept a surcharge. Thus, the delivery acceleration may at least at the start of the initiative be a differentiation feature in the market competition and also enables an additional profit margins. As a result, the supply chain is under pressure in the entire online retail sector, and a transfer to the supply chains in the automotive industry can also be observed. New ideas such as the use of drones are already being tested, and new service providers are being established with innovative approaches such as the mobility service provider Uber, which is already offering in the US, in competition to Amazon Now, deliveries which can be flexibly demanded via apps and logistics platforms.

This example from the field of the mobile Internet and the mobile ecosystem clearly shows how strongly the technology drives the upheaval of business models. It is important that all companies recognise these risks, but also the associated potentials, at an early stage and take advantage of these. It is also indisputable that further technologies, from Big Data and analytics to cognitive computing, will be the basis of the business models to take account of customer wishes and customer history. An example is the integration of location-based services in order to optimise delivery routes and the utilisation of the means of transport. The solutions just outlined at this point are discussed in detail in Chap. 9.

As a further example of the importance of high communication dynamics, the entire area of "business to consumer" is to be mentioned. Customers expect rapid reactions in their online communication with companies, but also that the customer information already available in the company is, for instance, known at follow orders or complaints and is taken into account in the replies. Dialogues in hourly

action with solutions within a day characterise the expectation of digital natives. These expectations must be fulfilled as a basis for successful customer relationships and, consequently, the necessary ability has to be organised in the companies. In addition, the customer interface, as part of the sales and aftersales processes, is subject to extensive changes and challenges on which Chap. 6 expands.

3.4 Sharing Economy

Sharing Economy is another interesting business model, which is becoming increasingly important, driven by the rapid spread of the smartphone. The basic approach of sharing or shared use has long been known with high-value investment goods. Examples are the sharing of holiday houses in the timesharing concept, the use of harvesting machines via cooperatives or also of machine tools. These models were already established before Internet times. However, special arrangements and elaborate coordination were required for handling, so that the entire Sharing business model so far only generated a modest sales volume. This changes with the availability of apps for simple, fast and extremely cost-efficient processing of the transactions. On the basis of platforms, completely new markets are emerging. New market participants, both suppliers and customers, can join existing platforms that are almost free of charge. The same applies to the spread of the platforms in new markets, resulting in impressive scale effects with exponential growth. Rifkin refers to it as the Zero-Marginal-Costs Society [Rif14].

Renowned Sharing providers are the market leaders in their respective segment, companies Uber with mobility services, and Airbnb with accommodation facilities, each offered by private individuals. Founded in 2007, Airbnb was represented in over 34,000 cities and over 190 countries, with a total of more than 1.5 million overnight stays per year. The company turnover in 2013 was $250 million and in 2015 approx. $900 million. Although the company did not make a profit in 2015, it is valued at $26 billion. Airbnb predicts for the year 2020 a profit before taxes and depreciation of $3 billion [Eic15]. The development of Uber is similarly dynamic. Founded in 2009, the company has a business valuation of $62.5 billion. Every day more than 2 million trips are provided, of which 1 million are in China alone. In the US, the company has 450,000 drivers with a total of 6700 employees. Sales in 2015 were $1.9 billion, with a loss of approx. $2.2 billion [Fre14].

Just these two examples highlight the dynamics of the shared business model, driven by smartphones, the "always on"-mentality and the corresponding lifestyle of certain population groups, a considerable proportion of which are also digital natives. The high company valuations are essentially driven by the assessment of the market potential. Sales of this Sharing business model worldwide are estimated to go up from the current $15 billion to around $335 billion by 2025 [Eic15].

Given the high growth expectations of the shared business model, the question arises as to how the areas relevant to the automotive industry are developing.
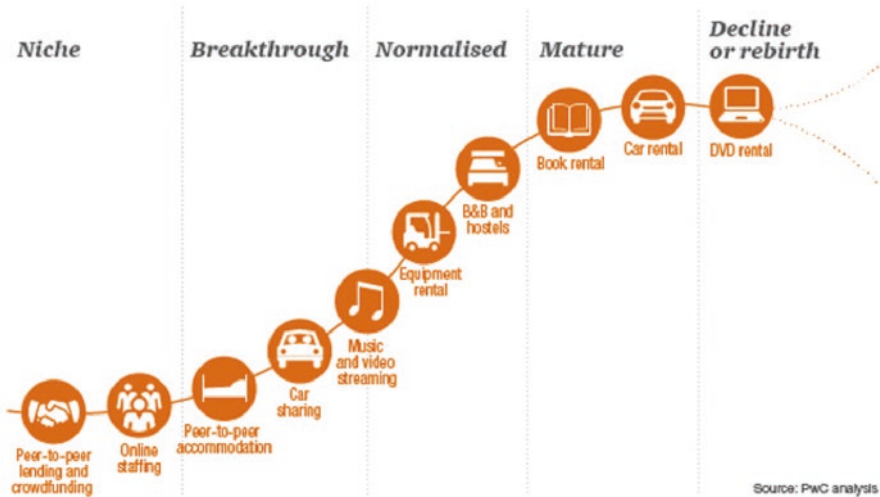
Fig. 3.4 Development of sharing offers (PWC)

Extensive studies have already been carried out. The results of a study by consulting firm Roland Berger are briefly discussed here as an example [Fre14]. The study estimates a growth in car sharing by 2020 to a market volume of €5.6 billion. This attractive business potential explains why there are now many providers in Germany, e.g. car2go (Daimler), DriveNow (BMW) and also Flinkster (Deutsche Bahn). Also for ridesharing or ridehailing, which are organised ride services, with a market volume of €5.2 billion in 2020, a strongly growing business potential is expected. Suppliers for ridesharing or ridehailing are, for example, Uber, Lyft (GM), Gett (Volkswagen) or the rideshare agency BlaBlaCar, and in China Didi Chixing. The shared parking, i.e. the sharing of parking space, is to grow by 25% annually until the year of 2020 to a volume of around €2 billion.

This means that the three fields of car sharing, ridesharing and shared parking are the business areas, and possibly also in potential offshoots, such as so-called peer-to-peer sharing, in which automobile manufacturers want to strategically position themselves. This is confirmed in a study by PricewaterhouseCoopers [Mil15]. It analysed the development status and the prospects of various sharing offerings. Figure 3.4 shows the summary in an S-curve representation and assigns the respective status of the offers to the phases of the economic life curve.

The models of peer-to-peer lending and car sharing, which are of interest to the automotive industry, are still at an early stage of development, while the traditional car rental business is already saturated. In the study, average annual growth rates of 63% are estimated for peer-to-peer sharing by 2025, and 23% for car sharing. This study also confirms the interesting business sectors as a possible part of the strategy of a mobility service provider.

The picture also shows that there are other promising sharing opportunities, for example, in online staffing or in the joint use of special machines or test equipment. The last-mentioned fields are not to be considered within this book. The mobility-relevant models are dealt with in more detail in the development of a digitisation strategy in Chap. 5. The subject of online-staffing is part of Chap. 7 "Corporate Culture".

3.5   Start Up Mentality

A remarkable behavioural pattern of digital natives derives from their frequent use of computer games. Different studies have found that teenagers are gaming for fun more than 2 h per day, older teenagers even longer. From these experiences, skills and patterns of thinking are adapted which the digital natives also show in their professional life [Sti15]. The willingness to expand borders and take on higher risks are typical behavioural patterns derived from this – for example "restart at failure". To this extent, digital natives are ready to try new ideas without reservation, to quickly assess the chances of success, to adjust them if necessary, or to completely reject them ("reset"). This mentality also plays an important role in the acceptance of new solutions in companies. Digital natives are ready to accept major innovation leaps, but expect the immediate removal of errors, or adjustments.

This new setting is cumulated in a so-called start-up mentality. This is characterised by boldly tackling subjects with having so far only very few experiences. The work is then approached with great commitment and the flexible integration of further resources on innovative paths. In doing this, working together through open communication in project-related structures, ideally without hierarchies and standards. This approach does not mean though to start frantically, aimlessly and hastily. Obviously there are agreements and objectives. In comparison to the traditional process, these are however dynamically and flexibly adjusted within the team in order to quickly realise value contributions. Fields of work with these agile approaches can be found particularly with startups in the Silicon Valley, so that a lot of digital natives and founders go there, especially as the international environment and flexible financing possibilities are a further motivator. Meanwhile, start-up centres have also established themselves in Haifa, Berlin, London and also Bangalore, which attract digital natives as well.

In order to be interesting as a possible employer to digital natives in competition with these startups, the companies have to offer a work environment that addresses this mentality. Working independently and with entrepreneurial thinking must be the standard. Then, the natives commit with high work input, creativity and also leadership. Problems are solved quickly, unconventionally and inventively. A creative work environment and a new organisational culture develop in which digital immigrants sometimes like to be pulled by the natives. Digital natives in this role in the enterprises are called Intrapreneurs – derived from "Intracorporate" and

"Entrepreneurship**"**. For companies it is necessary to develop this new type of employee in their organisation and to establish Intrapreneurs as so-called change agents. This creates a transformation culture as the prerequisite for successful digitisation projects. This subject is discussed comprehensively in Chap. 7.

3.6 Innovative Work Models

According to their nature and behaviour patterns, digital natives have a different relation to work than had the digital immigrants at the time of their professional career start. Previously, job security, the image of the employer and the level of income were important criteria at the career start and later for promotion opportunities in the company hierarchies. Today, it is much more about the task, an international, open work environment and also flexible work models with the possibility to create a suitable "work/life balance". This assessment is also supported in a study by the Fraunhofer Institute IAO, which differentiates seven trends in this context as motivators [Kor16].

1. Competitive orientation
2. Manage changing tasks
3. Work internationally
4. Demand-oriented presence
5. Consistently acquire new knowledge
6. Work in self-organised teams
7. Work under atypical contractual relationships

The study took the opinion of 1400 students in Germany on these trends with respect to their future professional activities. As expected, digital natives welcome the opportunity to adapt flexibly to changing tasks, to learn new knowledge and to work internationally in self-organised teams. However, the latter two trends are controversial. Virtual presence on demand is preferred to sporadic changes of location, and permanent positions are preferred to temporary employment or freelance work.

The immigrants were characterised by loyalty to an employer, natives rather by loyalty to their work content and environment. As explained in the above-mentioned study and in the previous section, if given the freedom of an intrapreneur, digital natives are also increasingly willing to accept permanent positions in established companies. Nevertheless, flexible working models have to be established, which will become more and more important in the future due to the change in traditional work structures. These are discussed below.

3.6.1   Digital Nomads

For a work model with the highest degree of freedom, the term of digital nomads is established. This describes people who are involved in IT and Digitisation, for instance as programmers, web designers, authors, bloggers and also software testers. As a "one man show" they are independent and free in the choice of their place of work and their working hours. The most important thing for them and for the exercise of their activities are powerful network connections. The digital nomads earn their livelihood by marketing their product, for example, apps or blogs, independently via appropriate Internet platforms. Another avenue is to collaborate on major projects, for example when designing a web site or when programming software solutions.

Namely in innovative IT projects, many companies rely on the integration of external resources, not least due to the lack of own specialist knowledge and lack of experience, but also of scarce internal capacities. Service providers thus work on tasks in the form of defined scopes of work. In addition, entire work fields, in particular outside the core business of the companies, are given to contractors on long term bases for 3–5 years in the form of outtasking (without transfer of employees) or outsourcing contracts (with employee transfer). In this environment, digital nomads with special knowledge are often involved as subcontractors. This type of flexible, so-called staffing of projects, often under a general contractor as a contract partner of the companies, is a collaboration mode which is currently used frequently. From the author's point of view, this is just an intermediate step though towards even more flexible structures.

3.6.2   Crowdsourcing and Liquid Workforce

The labour market which traditionally is locally orientated and the traditional work organisation in the companies are undergoing a radical change. On the one hand, digitisation projects often require very innovative and specific knowledge for a manageable project duration, on the other hand, the digital natives are ready to work in new working models. A further important prerequisite is the fact that with the WEB 2.0 technologies and high-performance computer networks tools are available to co-operate almost seamlessly across countries and continents. This creates highly flexible work structures, described by terms such as Liquid Workforce, Crowdsourcing and Cloudsourcing.

Especially in the IT industry, the concept of the Liquid Workforce assumes that the core workforce of companies is concentrated in core fields with reduced staff numbers, and this is then very flexibly ("liquid") strengthened in a project-related manner with experts [Acc16], [Boe14]. The employees are selected from a worldwide pool of the Crowd or the Cloud. The sourcing or the integration of the employees is handled through specialised Internet platforms, which are increasingly

available. This form of so-called online-staffing will increase considerably. Here, the already cited PwC study shows an average annual growth rate of 35%. Relevant criteria for the staffing decision are, apart from economic considerations, the applicant's knowledge and expertise.

However, some factors have to be taken into account in order to successfully implement crowdsourcing or online staffing during the project work. First, a brief summary on the most important aspects from view of the company is given based on the author's professional experience. To begin with, the technological basis of the project, such as tools, work equipment, communication and test procedures for the entire project needs to be defined, binding for all employees and sourcing partners. In doing so, one should largely rely on established standards in order to achieve low operating and adaptation costs in the subsequent use of the project results. Based on this, the project scope has to be divided into concrete work packages and described in detail. Namely the interfaces to the adjacent work packages and to existing company solutions must be specified and performance parameters be defined. On the part of the sourcing partner, it is recommended that they prove their qualification in the form of standardised certifications, ideally supported by references.

The individual work packages are then often advertised by the companies on online platforms in the form of auctions, whereby the companies besides the detailed descriptions also specify the required qualification level of the sourcing partners. Requirement for the release of payment usually is the provision of quality and timely work as per the tender to fulfil the contracted scope. A central task of the companies and the respective project manager is to ensure the reliable interplay of all part projects and, if necessary, the integration into adjacent existing systems. Despite these challenges in terms of structured project preparation and integration risks, it can be assumed that the flexibility of surfing in the form of staffing via internet-based processing platforms will further increase in future, especially as this could also be a potential answer to the growing shortage of specialists, namely in Germany – catchphrase "war for talents".

In this way, the concept of crowdsourcings is first described in terms of flexible work organisation and staffing procedures. This term is however used in many further aspects as well. Further fields of application for crowdsourcing are described, for example, in [Arn14]:

- Innovation … e.g. the joint development of the automobile of the future
- Funding and investment … e.g. acquisition of various investors for start ups
- Preparation and management of knowledge … e.g. offshoots of Wikipedia
- Charity/social projects … e.g. collection of in-kind donations or famine relief
- Creative marketplaces … e.g. platform for digital photography

Some of these aspects are also interesting for companies. Thus the provision of knowledge leads the way out from the mass of others, with the well-known example of Wikipedia, to a further general digital lifestyle feature. This is briefly illuminated in the following as it has to be considered in the necessary transformation of the entrepreneurial cultures in the course of digitisation.

3.6.3   Wikinomics

The term of Wikinomics refers to a new culture of work organisation and cooperation – also in companies as part of a new corporate culture [Tap09]. In this, people work freely and without hierarchical structures on different tasks. Wikipedia not only is the godfather of naming for this model yet also a good example to explain the principle. Many interested people with a qualified background are working without guidelines, pressure and compensation, using a WEB 2.0 platform to gather knowledge, keep it up-to-date and make it available as a knowledge database readily, flexibly and free of charge. This model of open cooperation of many, intrinsically motivated participants under a common goal can also be transferred to tasks in companies. Four basic principles have to be considered for successful implementation [Tap09]:

- Peering … Voluntary cooperation of individuals (including outsiders)
- Open … Openness
- Sharing … Culture of sharing
- Act globally … Global action

These principles are the basis of the success of Wikipedia and also of LINUX and YouTube. There is nothing wrong with using these principles internally in order to work across the entire company successfully on development tasks for instance, to bundle knowledge in the form of so-called Wikis, and to organise the communication with contributions from many employees via internal social media platforms like Facebook. The success of such initiatives certainly depends on the participation of as many interested employees as possible, as well as motivated by the active cooperation and informal example of superiors. This type of initiative is particularly appealing to digital natives and will motivate them to become involved in corporate transformation, which is a key success factor for digitisation. The subject of transformation is dealt with extensively in Chap. 7.

3.7   Google – The Goal of the Digital Natives

As already explained, digital natives do not distinguish between on/off times, they like to think and work cross-border. In their projects they act globally and appreciate fast communication behaviour almost in the real-time mode. They work in self-organised teams and do not need hierarchical structures. They respond to changes directly and flexibly. The work is possible from anywhere in the world and after a challenging workload peak, which is accepted with high motivation for the sake of the team's success, a time-out is appreciated for the purpose of work/life balance. Working in innovative work models with changing team members is thus becoming the norm.

When companies succeed in creating a work environment that allows to live in this pattern, young professionals are highly motivated to work as intrapreneurs and change agents in traditional businesses as well. In order to attract and retain well-educated digital natives as employees, despite the massive competition in the "war for talents", the question arises as to how companies can make the work environment attractive.

As a suggestion let us have a quick look at Google which is considered the "best of breed" model for such a work environment. The appraisal of Google by graduates in the field of IT in Germany is documented in a comprehensive study on the ranking of companies by their attractiveness for a career start [Tre16]. It resulted in the following order, incl. approval rates:

1.	Google	23.7%
2.	BMW	9.1%
3.	Apple	8.6%
…		
7.	AUDI	6.9%
…		
9.	Daimler	5.5%
…		
12.	Porsche	4.5%
…		
18.	Volkswagen	3.9%

Google is therefore voted by IT graduates the most attractive employer by far for a career start. The German automakers are behind by a considerable distance, with BMW as second, then followed by the other manufacturers. This results in a clear need for action in the automotive industry to increase its attractiveness. This is all the more pressing if one takes into account that the demand for IT specialists in this industry is growing at an ever-increasing pace and will as early as in 2020 exceed the demand for engineers [Pwc16]. Hence there is a considerable resource problem ahead that needs to be addressed. Adapting the listed flexible sourcing models can only be part of the solution. It is imperative that the automotive manufacturers as potential employers become more attractive and must win IT experts as internal employees. Just relatively high remuneration will not bring improvement in the ranking, namely since it is other criteria that are more important to natives.

What are the reasons for Google being this far ahead in the assessment? Sure, the image plays an important role. Among young people, the automotive industry has the image of being rather traditional, slow and not particularly innovative. This assessment is made by the industry product itself, without knowing any details on the products, the high engineering performance required and on the companies. No doubt the Google products are closer to the lifestyle of natives and used by most of them. The image is also strongly influenced by the work environment though.

Another personal anecdote by the author: During vacation in San Francisco, his student offsprings propose a trip to the Google Headquarters in Mountain View

instead of visiting the Yosemite National Park. Without having organised anything in advance, entering the site was easily possible as well as totally freely moving on the campus, even using the well-known Google bicycles. This freedom alone is a lasting impression. The Google employees who enjoy their lunch break are much more impressive though: some of them play basketball or football, some have their dogs with them, and they are all relatively young and appear to come from different nations. This illustrates the open, inspiring environment of the Google culture.

In order to make this culture even more attractive for digital natives, this is a (translated) quote on the Google culture straight from the Google-Germany homepage:

> Our employees make Google what it is. We bring smart and purposeful people to our team. Abilities are more important to us than experience. While all Googlers share common goals and visions for the company, we have very diverse backgrounds and speak many languages, as our users come from all over the world as well. Our leisure interests range from cycling and beekeeping to Frisbee and Foxtrott. We wish to maintain an open culture like it is typical of start-ups. Everyone can actively contribute and share their ideas and opinions with others. In our weekly TGIF meetings ("Thank God it's Friday") and, of course, also by e-mail or in our cafe, the Googlers can with company-relevant questions turn directly to Larry Page, Sergey Brin and other members of the management teams. Our offices and cafes are designed to promote the interaction between Googlers within teams as well as cross-team, be it at work or at a round of football.

Overall, Google creates a lively and flexible work environment, which is skillfully published with many reports and photos in blogs, IT reports and on YouTube [Goo16]. In personnel portals are numerous ratings on Google as an employer. The tenor is consistent and confirms the independent way of working in motivated, international teams and interesting projects in an innovative environment. Overall, Google has more than 62,000 employees with a relatively low mean age of 30 years, compared to Facebook (29), Apple, HP (38) and IBM (36). Fluctuation on Google is, however, relatively high and job entrants leave the company after less than 2 years to launch their own start-ups or to find fresh challenges in their areas of interest in new positions. Employee satisfaction is very high in the top rank of 89%, together with Facebook (96%) and Salesforce (89%). As regards the payment for job starters, Google is just right behind Facebook also in the top field of the high tech companies [Pay16].

This brief overview on Google as an attractive and preferred employer can give the automotive industry an indication of how to become an employer of interest to digital natives. First of all, the products should be brought closer to the digital lifestyle of natives. To this end, future vehicle generations with connected services and autonomous driving concepts, quasi driving IP addresses, may have good opportunities on offer. Attractive mobility services which are offered through apps and platforms on the smartphones will help to improve the image of automotive manufacturers. Nevertheless, it is also important that they transform themselves into start-up-like organisations along with the digitisation in order to offer interesting tasks and innovative work environments to the digital natives.

References

[Acc16] N.N.: Liquid workforce: Building the workforce for today's digital demand. Accenture Technology Vision, 2016. https://www.accenture.com/fr-fr/acnmedia/. Drawn: 01.07.2016

[Arn14] Arns, T., Aydin, VU, Beck, M., et al.: Crowdsourcing für Unternehmen; Leitfaden (Crowdsourcing for Enterprises; Guide). BITKOM (eds.), Berlin (2014). https://www.bitkom.org/Publikationen. Drawn: 05.07.2016

[Boe14] Boes, A., Kämpf, T., Langes, B., et al.: Cloudworking und die Zukunft der Arbeit (Cloudworking and the Future of Work). BTQ Kassel inputconsulting (2014). https://www.researchgate.net/. Drawn: 05.07.2016

[Bor14] Borstedt, S., Roden, I., Borchard, I: DIVSIU25 Study; 02/2014 German Institute for Trust and Security in the Internet. https://www.divsi.de/wp-content/uploads/. Drawn: 25.06.2016

[Eic15] Eichhorst, W., Spermann, A.: Sharing Economy – Chancen, Risiken und Gestaltungsoptionen für den Arbeitsmarkt (Sharing Economy – Opportunities, Risks and Design Options for the Labour Market). IZA Research Report No. 69, 12/2015. Research Institute for the Future of Labour, Bonn. http://www.iza.org/en/. Drawn: 27.06.2016

[Eva16] Evans, B., Andreessen, H.: Mobile is eating the world. Presentation 03/2016. http://ben-evans.com/benedictevans/2016/3/29/presentation-mobile-ate-the-world. Drawn: 26.06.2016

[Fre14] Freese, C., Schönberg, T.: A Shared Mobility. How new businesses are rewriting the rules of the private transportation game. Roland Berger study (2014). https://www.roland-berger.com/. Drawn: 29.06.2016

[Goo16] N.N.: Google: Our Culture. https://www.google.com/intl/de_de/about/company/facts/culture/. Drawn: 05.07.2016

[ICT15] N.N.: ICTFact and Figures – The world in 2015. ICT Data and Statistics Division, Geneva Switzerland. http://www.itu.int/en/ITU-D/Statistics. Drawn: 25.06.2016

[Kor16] Korge, G., Buck, S., Stolze, D.: Die "Digital Natives" grenzenlos agil? ("The 'Digital Natives' endlessly agile?") Study Fraunhofer-Institut für Arbeitswirtschaft und Organisation IAO (2016). http://www.iao.fraunhofer.de/images/. Drawn 01.07.2016

[Mar15] Markowetz, A.: Digitaler Burnout. Warum unsere permanente Smartphonenutzung gefährlich ist (Why Our Permanent Use of Smartphones Is Dangerous). DroemerKnaur, Munich (2015)

[Mil15] Miller, M.J.: PwC: Americans subscribe to the sharing economy brandchannel, 21.04.2015. http://www.brandchannel.com/. Drawn: 02.07.2016

[Pay16] N.N.: Spot Check: How Do Tech Employers Compare; PayScaleStudy 2016. http://www.payscale.com. Drawn: 05.07.2016

[Pwc16] N.N.: Bis 2020 entfallen 60 Prozent aller neuen F&E-Jobs in Auto-mobilindustrie auf IT-Spzialisten ("By 2020, 60 Per cent of All New R&D Jobs in the Automotive Industry Will Go to IT Specialists"); PwC Analysis 02/2016. http://www.pwc.de/de/pressemitteilungen/2016/bis-2020-entfallen-60-prozent-aller-neuen-f-e-jobs-in-automobili.html. Drawn: 05.07.2016

[Rif14] Rifkin, J.: Die Null-Grenzkosten-Gesellschaft (The Zero-Marginal-Cost Society). Campus Verlag, Frankfurt a.M. (2014)

[Sti15] Stiegler, C., Breitenbach, P., Zorbach, T. (eds.): New Media culture: Mediale Phänomene der Netzkultur (Medial Phenomena of Network Culture). transcript Verlag, Bielefeld (2015)

[Tap09] Tapscott, D., Williams, A.D.: Wikinomics: Die Revolution im Netz (The Revolution in the Net). Deutscher Taschenbuchverlag, Munich (2009)

[Tre16] N.N.: Deutschlands 100 Top-Arbeitgeber ("Germany's top 100 employers"). trendence Institute (2016). https://www.deutschlands100.de. Drawn: 10/08/2016