

Investigating Employee Engagement of Engineering Teams of Long-term Domestic Projects: Multinational Organizations Under Hybrid-working Model in Egypt

Ashraf Elsafty¹ & Nabil A. Hanafi²

¹ Adjunct Assistant Professor, ESLSCA University, Egypt

² MBA Candidate, ESLSCA University, Egypt

Correspondence: Ashraf Elsafty, Adjunct Assistant Professor, ESLSCA University, Egypt.

ORCID ID: <https://orcid.org/my-orcid?orcid=0000-0002-9377-7286> E-mail: ashraf.elsafty@eslsca.edu.eg; ashraf@ashrafelsafty.com

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Abstract

The literature widely covered engagement from different perspectives and how it is affected by different job resources and job demands. This study tackles the effect of job resources including the hybrid-working model, manager coaching, and other resources on engagement. Even though job resources were extensively examined in the literature; this paper introduces the hybrid working model as a job resource and the long-term assignment as a job demand affecting employee engagement.

This study aimed to investigate the effect of the hybrid working model, manager coaching and development plans under long-term assignment conditions on engagement using a cross-sectional questionnaire. Respondents were engineers involved in a long-term assignment (long duration in the same project). The results revealed that job resources had a statistical significance as well as a positive relationship with engagement, while LTA had a statistical significance as well as a negative moderating effect on the relationship between job resources and engagement.

The study findings suggested that the relationship between job resources and engagement is negatively moderated by working on long-term assignments.

Keywords: engagement, work from home (WFH), hybrid-working model, long-term assignment (LTA), job resources

1. Introduction

The pandemic of COVID-19 caused multinational organizations to launch new working models rather than the normal ones; working from home (WFH) was mandatory in most countries; reduced office hours had positive cost reduction impacts which made organizations apply reduced office hours in diverse ways. Different arguments came out that reduced office hours may affect employee engagement positively or negatively. The hybrid-working model was conducted to fill in gaps resulting from WFH such as poor communication, less physical interaction that affected teamwork negatively, and fewer face-to-face meetings with the management team.

An organization that was proven in the second half of the 1990s to work on engineering and services supporting a multinational company to work on projects all over the world (in different capacities) for remote engineering, local engineering, and site activities, focusing mostly on the region of the Middle East and North Africa; 100% of the organization's staff are highly qualified Egyptians in all departments. Experienced project managers manage the engineering scope of a wide range of projects in different industries (Oil and Gas, Energy and Power).

The duration of projects and services managed by the organization varies from short-term services (one day to six months) to long-term services/projects (six months or more). Projects size vary from small projects (less than 1K working hours) to mega-projects that require a high headcount and continue for a long duration.

The organization won the engineering contract for the energy sector digitization program in Egypt which is expected to continue for five years with a vast headcount and working hours from different skill sets on three stages in a row

with chances of overlap. The engineers will work under the supervision of the head office of the multinational company and directly with the governmental electrical company. The contextual factors of the problem were analyzed using the 9 Elements model (Elsafty, Business Anatomy: 9 Elements Model, 2018) [Figure 1. Business Anatomy: The 9 Elements Model (Elsafty, 2018)].

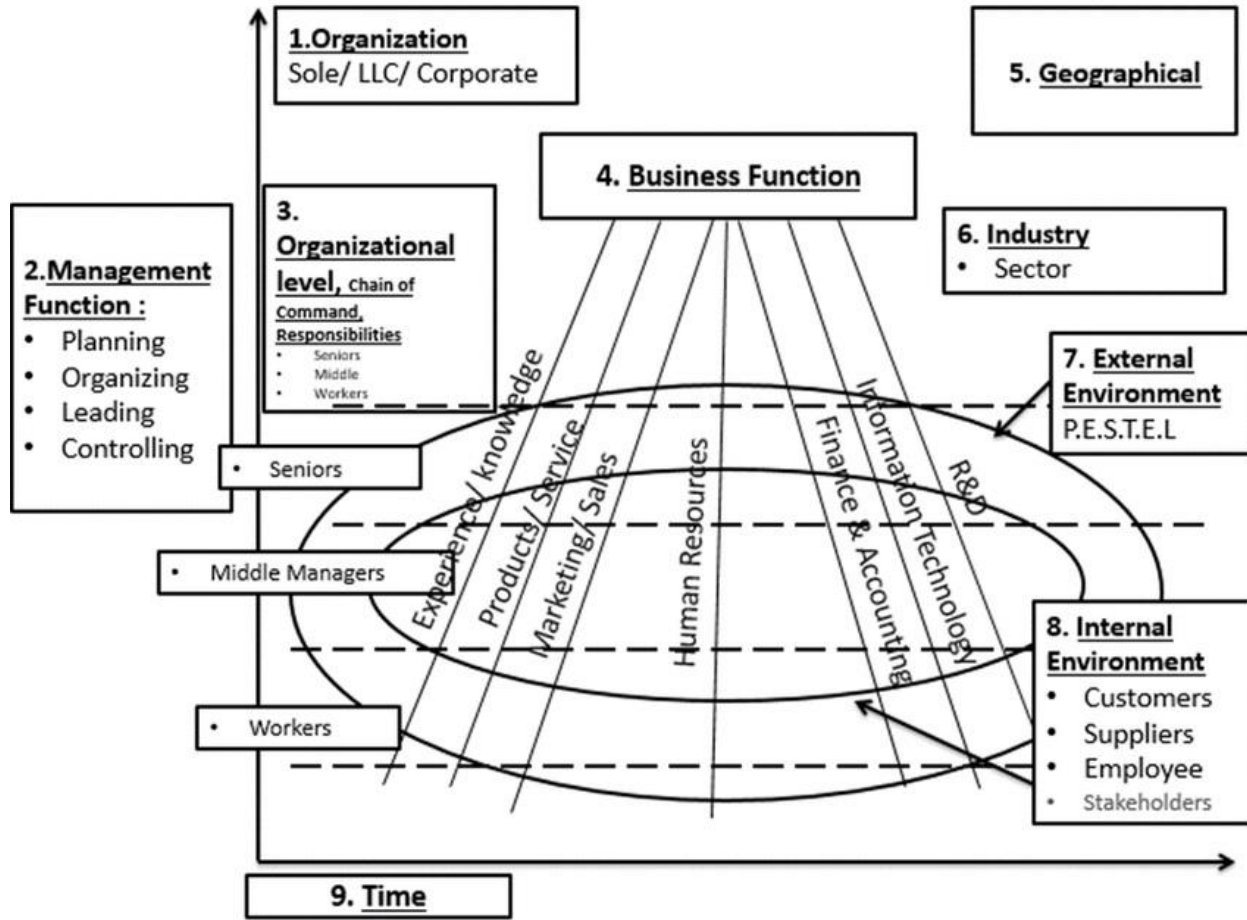


Figure 1. Business Anatomy: The 9 Elements Model (Elsafty, 2018)

It was a challenge to ask working teams to return to the office, after working from home for approximately six months, especially under pandemic worries. Management applied strict precautionary measures in the workplace and applied different formations of hybrid-working models; they evaluated fixed, office-first, and remote-first hybrid-working models and applied them to different technical and managerial levels.

The project management team applied a monthly-based hybrid-working model to meet project activities requirements on a level that does not negatively affect the required high-quality outputs; using technology and physical meetings on a suitable agility level to avoid any disturbance to the project activities.

A multinational company applied a hybrid working model starting from 2021 effectively based on 2 days/week WFH as a mixed model between working from the office and working from home (Media Relations Schneider Electric, 2020).

The program activities were initiated by July 2020; the average headcount for the last 2 years working on the project is forty resources per year; around 90% of them were permitted to work on a hybrid-working model to eliminate office crowding – under COVID-19 circumstances-, giving more flexibility for the team and to increase the team motivation.

According to the ambiguity of project scope; as it is the first project on that scope in Egypt; the plan provided to the

engineering organization was poor on both levels of headcounts and task duration for almost all technical and managerial profiles participating in the project; that opened the door to keep working resources feel stuck and kept their future working and development plans un-clear which affected their motivation negatively.

It was observed that the team engagement was negatively affected as 10% of the joined resources were voluntarily moved to the customer, 5% resigned from the organization and around 70% of the resources are unwilling to continue working on further stages of the program. The main observed and communicated issues through one-to-one meetings were the following:

- The weakness of experience developed through the project as the customer required to have most of the team of experienced engineers to have the most efficiency and effectiveness on project results.
- Elimination of income-increasing opportunities through travelling abroad on other assignments as the organization provides the engineers with higher financial incentives in case of travelling abroad on other projects, employees are willing for working on these projects, especially under current economic difficulties in Egypt.
- Feeling of ambiguity of career path and promotion opportunities as working on a single project or service contract for a long duration is not serving their career path improvement.

What affects employee engagement under long-term assignments?

Management considered applying some strategies to enhance the engagement of the team, for instance, enhancement of allowance for the site-based team, offloading managerial tasks to most senior engineers in different teams, assigning 20% of the project manager's time to conduct face-to-face meetings with all the team members to listen for their ideas, complains or having an open discussion, monitoring the workload closely for each resource and investigate for long duration with high workload cases to avoid burnout of employees. These actions resulted in the following:

- Enhancement of incentives for the site team which is around 25% of the full project workforce, increased their engagement with the project and the full organization, also the plan of increasing allowance for coming project phases, increased the engagement positively as most of the resources accepted to continue in the project and not thinking for resignation soon, allowance was noticed to be more effective with married employees, especially under the difficult economic situation in Egypt.
- Resources development plans – especially senior-level- caused higher engagement for that group which is more probable to leave because of less gain in experience. Additionally, after doing interviews, investigations, and based on management observations, it was clear that a high workload is not one of the main causes of low engagement, but a low workload is. Engineers feel bored in case of low work as they miss the time that could be invested in their skills development.

Claim 1: Career development plans affect engagement positively.

- Periodical meetings with the line manager were noticed to be effective in increasing team engagement.

Claim 2: Periodical Management Meetings affect engagement positively.

- Clear evaluation criteria should be applied in a way that reflects the task that the engineer doing in the project as the last one was not successfully reflecting the efforts done by the engineers affecting their promotion (career path) and salary incentives; that should decrease de-motivation of the team which directly affects their engagement to the project and the organization.

Claim 3: Clear evaluation criteria affect engagement positively.

- Hybrid-working model was noticed to be one of the most effective variables that promote employee engagement, the monthly hybrid-working model was the most effective working pattern to be used in long-term projects to give more flexibility to engineers and to support their work-life balance.

Claim 4: Hybrid-working model (flexible working pattern) affects engagement positively.

It was monitored by an international organization that the engagement index increased globally in 2021 to reach 71% with an increase of 7% from 2019 (through the pandemic of COVID-19) [Figure 2. Engagement Index Results (Schneider Electric, 2022)] (Schneider Electric, 2022).

100% of employees were surveyed in May 2021 through a consistent and continued measurement of the employee engagement index but with a refreshed set of questions to better fit our ambition:



Figure 2. Engagement Index Results (Schneider Electric, 2022)

Three main drivers for engagement were indicated as flexibility to work arrangements, empowerment of employees, and transparent applied performance evaluation criteria [Figure 3. Top drivers for employee engagement (Schneider Electric, 2022)] (Schneider Electric, 2022). That indicates the importance of flexibility in working arrangements. In that case, the hybrid-working model promotes employee engagement as it provides flexibility for employees to mix between working from the office and working from home.



Figure 3. Top drivers for employee engagement (Schneider Electric, 2022)

Development plans, periodical management meetings, evaluation criteria, and a hybrid-working model affect employee engagement positively, whether working on a long-term project may affect the results of these efforts as illustrated in the following Conceptual Model [Figure 4. Conceptual Model].

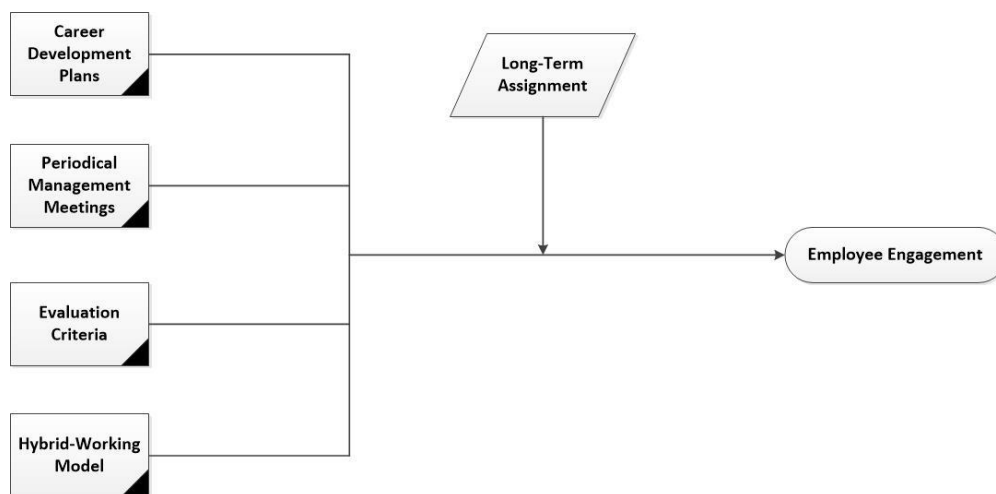


Figure 4. Conceptual Model

2. Literature Review

2.1 Definition of Engagement

Engagement as a concept was defined from different perspectives, Kahn, W. (1990) defined engagement as “Harnessing of organization members’ selves to their work roles” (Kahn W. A., 1990), from another perspective, Rothbard, N. (2001) defined engagement as a two-dimensional concept which consists of attention and absorption, attention defined as “cognitive availability and amount of time one spends thinking about the role” (Rothbard, 2001), and absorption was defined as “being engrossed in a role and refers to the intensity of one’s focus on a role” (Rothbard, 2001), Harter *et al* (2002) argues that “Employees are emotionally and cognitively engaged when they know what is expected of them, have what they need to do their work, have opportunities to feel an impact and fulfillment in their work, perceive that they are part of something significant with coworkers whom they trust, and have chances to improve and develop” (Harter, Schmidt, & Hayes, 2002), also the engagement was discussed in three dimensional model by Schaufeli *et al* (2002) which are vigor, dedication and absorption and was defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002), that reflects that there are different definitions of engagement from different perspectives and different approaches.

Employee engagement affects employee retention significantly as it is considered the main driver of employees deciding to stay or leave the organization (Elsafty & Oraby, The Impact of Training on Employee Retention: An Empirical Research on the Private Sector in Egypt, 2022).

It was discussed by Banihani (2013) that the argument that engagement is connected to gender as the men’s characteristics are more suitable for organizations’ requirements showed inconsistency in its results as it varies from one country to another (Banihani, Lewis, & Syed, 2013).

2.2 Engagement From a Psychological Perspective

Conceptually, engagement was discussed by Kahn, W. (1990) from a psychological perspective as it was considered to be initiated by the employee; it was defined as *personal engagement* which influences the promotion of employee behaviors and keeps the employee acting physically and emotionally on the highest level that results in best performance; the main considered psychological conditions are feelings of meaningfulness, availability, and safety (Kahn W. A., 1990). The engagement was considered as an employee-job relation with no direct interference from the organization’s side, it was considered to be driven by job nature, the role to be played by the employee, and work contexts.

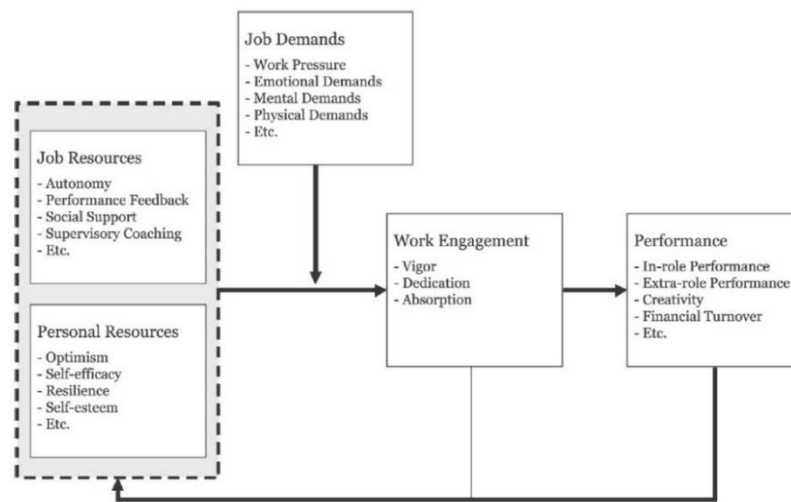
Schaufeli, W. *et al* (2002) focused on the contrary between burnout and engagement; considering burnout as opposite to engagement on three different dimensions; burnout dimensions considered as exhaustion, cynicism, and reduced efficacy versus engagement dimensions which are vigor, dedication, and absorption; engagement and burnout were discussed from psychometric qualities perspective along with the relationship between both concepts (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). Concepts of engagement and burnout were discussed from a psychological perspective without considering organizational interventions or focusing on the roles of line managers. The engagement definition of Kahn, W. (1990) was developed by Saks (2006) to include and consider job and organization engagement (Saks, 2006).

2.3 Job Resources and Job Demands

Schaufeli, W. and Bakker, A. (2004) extended the study to include job resources and job demands and their effect on engagement and burnout concepts; job demands were considered quantitatively from a workload perspective and qualitatively which is emotional job demands; for job resources, it was considered on three levels which are the task, interpersonal and organizational levels (Schaufeli & Bakker, Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study, 2004). It was noticed that workload affects engagement negatively if it continues for extended periods, the employee’s emotions are affecting the personal willingness to make additional efforts in the task. The nature of the task, feedback performance, team-working, team spirit, and leadership coaching are examples of job resources. Engagement was defined as the mindset that contains vigor, dedication, and absorption; vigor is considered as the employee’s willingness to do an effort in work and to face difficulties persistently, dedication is considered to be the feeling of pride and significance, and absorption is the employee to be in his highest level of concentration (Schaufeli & Bakker, Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study, 2004).

From another perspective, Bakker, A. and Demerouti, E. (2008) explained in detail the drivers of work engagement considering psychological costs, the link between engagement and performance, and the reasons behind the better

performance of engaged employees (Bakker & Demerouti, 2008). One of the most important reasons for better performance was the crossover of engagement; “If colleagues influence each other with their work engagement, they may perform better as a team” (Bakker & Demerouti, 2008). That concept is particularly important as it is valid on both positive and negative sides. Bakker, A. and Demerouti, E. (2008) considered the overall work engagement model - JD-R Model (Job Demands and Resources) - based on two assumptions [Figure 5, JD-R Model (Bakker & Demerouti, 2008)], the first one is the job resources which increase the motivation of employees leading to higher engagement such as feedback on performance, skill development, and positive social support from managers and colleagues, the second assumption is job resources that may affect the engagement negatively through working under pressure, emotional demands and other job demands (Bakker & Demerouti, 2008). Throughout the project, all mentioned variables significantly affect the employee and should be closely checked by the management to take corrective actions on the spot whenever needed.



Source: Based on Bakker & Demerouti (2007)

Figure 5. JD-R Model (Bakker & Demerouti, 2008)

Schaufeli *et al* (2009) discussed the prediction of job demands and job resources (JD-R Model) on burnout and engagement, as the increase in job demands and decrease in job resources are expected to result in burnout; that study consideration reflected that involuntary absence duration and frequency are predicted by burnout and engagement respectively; it was connected to sickness absenteeism as the increase in job demands and decrease in job resources increase the involuntary absence duration and frequency respectively (Schaufeli, Bakker, & Rhenen, How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism, 2009).

Kahn, W. (1992) discussed in detail the *psychological presence*, as the main driver to better employee engagement, in four dimensions: working team members are feeling and attentive, communicating, integrated, and performing in a focused and active manner (Kahn W. A., 1992). The psychological presence of employees is reflected in their behaviors in the organization and how they react to day-to-day activities, which is the appeared part of employee engagement that can be considered as organizational behavior; the organization and especially the project manager has a bigger effect on the employees to monitor, guide and even manage their emotional, and professional behaviors; that makes the JD-R Model (Bakker & Demerouti, 2008) more realistic and more comprehensive as it includes the psychological portion of engagement and the organization required actions for increasing the overall employee engagement.

2.4 Psychological Work States

Marathe, G. M. *et al* (2019) conceptualized the engagement/disengagement causes into two new dimensions; *job thrust* which is a combination of job demands and job resources of the JD-R model (Bakker & Demerouti, 2008), and *personal thrust* which consists of personal demands and personal resources; that two dimensions have internal balancing levels; for job thrust if both job demands and job resources are matched that creates a balanced job thrust that gives the employee a reason to be engaged better, if job demands are relatively low compared to job resources that cause low job thrust that may result in employee disengagement, but if job demands are relatively high

compared to job resources that create excessive job thrust that causes excessive pressure on the employee that causes him to lose concentration, the other dimension is personal thrust which has the same three levels of balanced, low and excessive; the balanced personal thrust results from balance between personal demands and personal resources or the sense of relaxation in workplace, low personal thrust causes work reluctance and excessive personal thrust causes addiction of work (Marathe, Balasubramanian, & Chalil, 2019). Based on the conceptual model of psychological work state [Figure 6, Conceptual model of psychological work states (Marathe, Balasubramanian, & Chalil, 2019)], the combination of different levels of job thrust and personal thrust creates different psychological work states which are translated into engagement/disengagement of the employee in the workplace; balanced job thrust and personal thrust creates work engagement state which considered as *ideal* work state, as considered by Kahn, W. (1990) as the employee who acts physically, emotionally, and cognitively on the higher level during performing his role (Kahn W. A., 1990), which is considered by Schaufeli, W. and Bakker, A. (2004) as the opposite to burnout with dimensions of vigor, dedication, and absorption (Schaufeli & Bakker, Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study, 2004), based on that balanced job thrust and personal thrust predicting engagement (Marathe, Balasubramanian, & Chalil, 2019). The psychological work state of *work exhaustion*, as explained by Marathe, G. M. *et al* (2019) is a result of excessive job thrust and personal thrust which may be described as over-engagement (Bakker & Demerouti, 2008), the negative impacts on employee health that may be caused by excessive job demands (Geurts & Demerouti, 2003), the high involvement in work with low work enjoyment was defined by Spence and Robbins (1992) by the concept of Workaholism (Spence & Robbins, 1992), Evers *et al* (2002) described that exhaustion psychological work state as a result of burnout which causes low self-efficacy and depersonalization (Evers, Brouwers, & Tomic, 2002), the work exhaustion state causes the employee to be disengaged from work (Marathe, Balasubramanian, & Chalil, 2019).

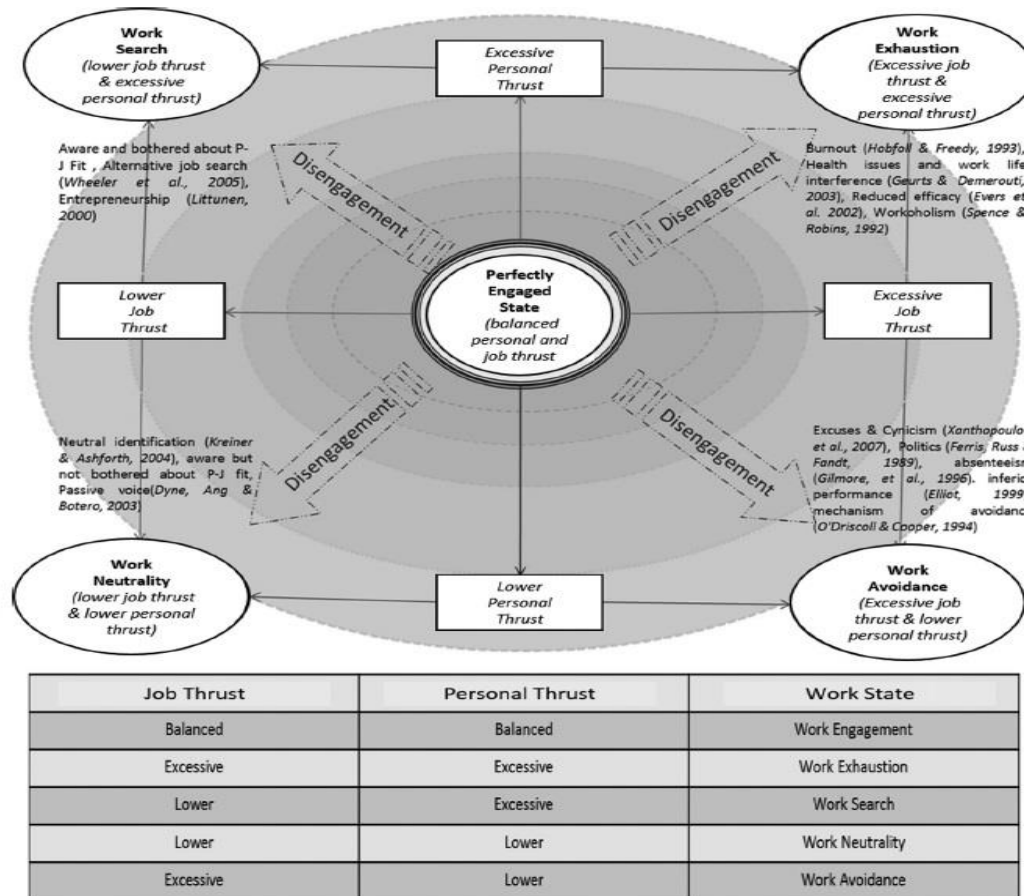


Figure 6. Conceptual model of psychological work states (Marathe, Balasubramanian, & Chalil, 2019)

Another disengagement work state was indicated by Marathe *et al* (2019) as *work avoidance*; it is a result of

excessive job thrust and low personal thrust, it can appear in reluctance in front of the job tasks and appears very clearly in absenteeism (Marathe, Balasubramanian, & Chalil, 2019). In some cases that appear as an issue in employee discipline, it should be treated carefully by the organization’s management team to solve the root causes instead of applying punishment to employees.

The third disengagement work state discussed by Marathe *et al* (2019) is *work neutrality* which results from low job thrust and low personal thrust, which was considered by Dyne *et al* (2003) as a passive or demotivated employee (Dyne, Ang, & Botero, 2003), and was identified by Kreiner and Ashforth (2004) as employee neutral identification in the organization (Kreiner & Ashforth, 2004), that is the neutral behavior of employee that makes him not performing actively nor negatively (Marathe, Balasubramanian, & Chalil, 2019), which can be considered as “just doing the required job” state.

The last disengagement work state is *work search* which results from low job thrust and excessive personal thrust as stated by Marathe *et al* (2019), which causes the breaking of the tie between the employee and the organization, which appears in active searching for other job or entrepreneurial chances (Littunen, 2000), that disengagement behavior pushes the employee to leave the organization (Marathe, Balasubramanian, & Chalil, 2019).

These engagement/disengagement work states cover all psychological work states (Marathe, Balasubramanian, & Chalil, 2019) that result from the mix of job sources/demands including personal sources/demands based on the JD-R model (Bakker & Demerouti, 2008).

2.5 The Line Manager’s Role in Promoting Employee Engagement

McBain, R. (2007) explained conceptually engagement and how to get the desired outcome from engagement considering the three main key drivers of it are the organization, management and leadership, and working life [

Figure 7. Engagement Key Drivers (McBain, 2007)]; The line manager is considered doing a key role in developing and measuring the engagement as he is the one who directly interacting with employees; leading their development/training plans, seeking/providing feedback, mentoring and applying engagement best practices (McBain, 2007). It is one of the most important roles of the line/project manager to keep a high engagement level of the working team, especially under telework conditions, the hybrid-working model gives a chance for physical meetings with the team on the group and one-to-one levels which makes the line manager tasks as mentoring and feedback receiving easier.

The organization	Management and leadership	Working life
<ul style="list-style-type: none"> • Organizational culture • Values and vision • The brand – organizational or product 	<ul style="list-style-type: none"> • Senior management leadership • Line manager commitment • Communication 	<ul style="list-style-type: none"> • Recognition • Supportive colleagues • Developing potential • Clarity of expectations • Flexibility • Work/life balance • Involvement in decision making • Working environment

Figure 7. Engagement Key Drivers (McBain, 2007)

Baumruk, R. (2006) claimed that the line manager is responsible for keeping employees engaged at the top level by supporting their career development, frequent recognition, and performance evaluation (Baumruk, 2006). The line manager needs to monitor, control, and evaluate the engagement of direct reporting employees through physical and online meetings on individual and group levels; “The definition of managers’ work needs to include the development and performance of their staff” (Baumruk, 2006).

Kolar, S. *et al*. (2008) concluded that engagement conceptually from different perspectives, the findings are giving a negative picture which makes it clear that no single definition for engagement and no single clear technique to be followed for engagement level enhancement; different environmental elements have significant effects on employees

engagement such as culture, values, political and economic circumstances (Kolar, Gatenby, Rees, Soane, & Truss, 2008). It is the manager's responsibility to measure the effects of the external environment on employees' engagement inside the organization and take the required actions on time to keep its effect minimal.

Purcell, J. (2014) discussed the problem of broad definitions which makes it impossible to have one agreed definition of engagement; two different approaches to engagement definition, are related to each other, work engagement which is focusing on the employee's psychological state, and the employee engagement which is focusing on the behavioral side and how the organizations get their employees engaged (Purcell, 2014). Integrating both approaches and focusing on an organizational management role to increase employee engagement gives a better-integrated view of engagement from employee and organization perspectives.

2.6 Work From Home (WFH) and Hybrid-Working Model as Flexible Working Models

The remote working models were generally considered as new working practices that were forced to be experienced by employees and organizations (Wang, Liu, Qian, & Parker, 2021).

Nurzaman, E. *et al.* (2020) focused on the challenges that face managers in keeping workforces engaged under new working models forced by COVID-19 (Nurzaman, Affandi, Udobong, Sarwani, & Hernawan, 2020). Chafi, M. B. *et al.* (2022) indicated positive and negative impacts of remote work through pandemic conditions from perspectives of employee and leadership (Chafi, Hultberg, & Yams, 2022). Remote working caused a kind of isolation between the employees and their managers which requires more effort from managers to develop, motivate and evaluate their employees to keep high engagement on projects and organizational levels.

Pilarta, R. and Noroña, M. (2021) discussed the work-from-home model and its positive and negative effects on the engagement of employees as it was considered a beneficial model for organizations on diverse levels (Pilarta & Noroña, 2021). The hybrid working model was considered to minimize the negative side of WFH by mixing working from home and the office and keeping the employees' social interaction.

Grzegorzcyk, M. *et al.* (2021) discussed in detail the remote working (telework) concept in all EU countries and the telework ability of different industries based on the nature of the task, working methods, and working tools; the hybrid working model can be considered a successful model as it is considered positively affecting the productivity (Grzegorzcyk, Mariniello, Nurski, & Schraepen, 2021). Productivity can be considered as a direct result of the engagement, if the hybrid-working model is applied successfully, the engagement should be positively affected; "The hybrid model poses two particular challenges for corporate culture: leadership must move from control to trust, and special attention must go to the fair inclusion of remote workers" (Grzegorzcyk, Mariniello, Nurski, & Schraepen, 2021). That reflects the role played by the hybrid-working model in creating flexible and interactive working environments which affect employee engagement positively.

3. Research Design

The model of JD-R Model (Bakker & Demerouti, 2008) is the most suitable model to be used as it covers job and personal resources and job demands, all discussed variables are categorized under job/personal resources and job demands; incentives, hybrid-working model, development plans, periodical management meetings, and evaluation criteria can be categorized under job/personal resources; long term assignment to be considered as job demands component. Resulted in hypothesis statements are as follows:

Hybrid-working model is supporting a flexible working environment which results in better work-family interference and gives the chance to employees to work from home partially along with working from the office to keep interaction and have support from co-workers.

Also, Development plans which are generated from transparent evaluation criteria are important to the employee as they give them the potential to develop themselves and build their career path creating a suitable environment for employee engagement enhancement, which supports increasing the employee engagement level.

Periodical management meetings with employees as a part of supervisory coaching are important to keep employee engagement at prominent levels.

H1: Job Resources as a Hybrid-working model, Development plans, Evaluation criteria (performance feedback), and Manager supervisory coaching are significantly affecting employee engagement positively.

H0: Job Resources as a Hybrid-working model, Development plans, Evaluation criteria (performance feedback), and Manager supervisory coaching are affecting employee engagement positively.

Long-term assignment affects the relationship between all enhancement actions and the level of engagement as its

job demands work against all these actions.

H2: Long-term assignment affects engagement negatively as a job demand against job resources.

H0: No direct effect from long-term assignments on employee engagement

The theoretical framework is illustrated in the following figure [Figure 8 (theoretical framework)].

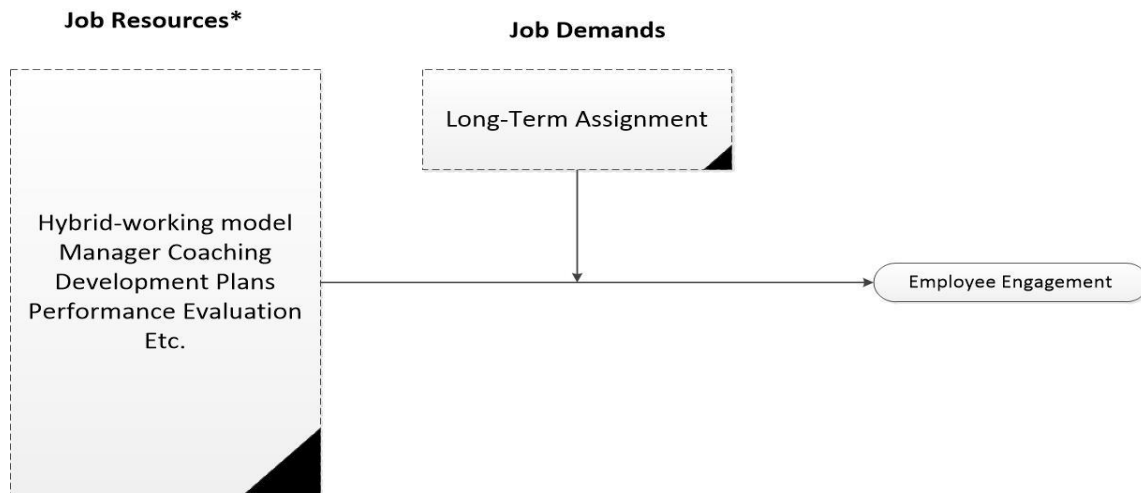


Figure 8. Theoretical framework

4. Methodology

Descriptive research is to be conducted to test the direction of each of the variables as job/personal resources and job demands using the JD-R Model (Bakker & Demerouti, 2008) using quantitative data analysis, moderate contrived field study to be applied using mail questionnaire to be sent to employees.

4.1 Population and Sample

The research used the non-probability sampling technique to withdraw one sample from engineers who worked on a long-term assignment, the available population size was 33 engineers, and the minimum sample size recommended by the sample size calculator is 30 with a 5% margin error and 90% confidence level.

The respondents to the questionnaire were 30, the majority of respondents were men (86.7%), the most of respondents were 5-10 years of experience (46.7%) while respondents with less than five years of experience (36.7%), among the respondents (90%) spent more than one year working on the same project.

4.2 Instruments

4.2.1 Research Questionnaire

The questionnaire focuses on employee engagement as its output shall reflect the measures of working under circumstances of long-term assignment through a hybrid-working model effect on employee engagement.

Table 1

Variable	Measurement	Question	Reference	Scale
Engagement	Measuring Dedication under long term assignment conditions	I find the work that I do full of meaning and purpose	Shaufeli <i>et al</i> (2006)	1-5 Scale*
Engagement	Measuring Vigor under long term assignment	At my work, I always persevere, even when		1-5 Scale*

	conditions	things do not go well	
Engagement	Measuring Dedication under long term assignment conditions	I am proud of the work that I do.	1-5 Scale**
Engagement	Measuring Vigor under long term assignment conditions	I can continue working for very long periods at a time	1-5 Scale**
Resources		My supervisor cares about my opinions. (Saks, 2006)	1-5 Scale**
Resources		My supervisor really cares about my well-being.	1-5 Scale**
Resources		My supervisor strongly considers my goals and values	1-5 Scale**
Resources	To check the impact of the hybrid-working model on employee engagement	Home environment that provides the opportunity to conduct daily jobs correctly and effectively (Pilarta & Noroña, 2021)	1-5 Scale**
Resources		Access to the regular workspace and company information to avoid being isolated from the company's community	1-5 Scale**

*The scale needs the employee to decide about the frequency that he feels this way through his/her contribution to the assignment, if he never had this feeling he would choose “1”, if he had that feeling he shall indicate the frequency through the scale (2 to 5) as follows:

- Never => 1 (Never had this feeling)
- Rarely => 2 (had this feeling very few times “maybe 1 or 2 times”)
- Sometimes => 3 (had this feeling before “may be under specific situations”)
- Often => 4 (had this feeling three times or more every month)
- Always => 5 (had this feeling too many times “maybe every day”)

**The scale will measure how the employee agrees with the statement as follows:

- Strongly Agree => 5
- Agree => 4
- Neutral => 3
- Disagree => 2
- Strongly Disagree => 1

4.3 Data Analysis

The sample data collected using an email questionnaire was analyzed, and the quantitative data analysis was applied using SPSS software for the Reliability analysis using Cronbach’s Alpha, correlation analysis to measure the strength between engagement and job resources, regression test to measure the significance of job resources to the engagement and hierarchical multiple regression test to measure the moderation effect of Long Term Assignment (LTA) on the relationship between Engagement and Resources using PROCESS 3.4 plugin for SPSS software.

5. Results

5.1 Constructs Validity and Reliability Analysis

The internal consistency of the research instrument was assessed in the preliminary analysis test. All of the

instrument scales had acceptable reliability. The reliability score “Cronbach’s alpha” was used to estimate the Internal consistency for the variables. Based on Chakrapani, C. (2004), the values of internal consistency reliability greater than 0.5 are acceptable which results in internal consistency reliability for the scales of Resources (9 items), Engagement (4 items) can be considered acceptable as the values were 0.762, 0.53 respectively (Chakrapani, 2004). Also, the appropriate scale for reliability suggested by Hinton, McMurray, and Brownlow, (2014) was as follows:

0.90 and above denotes excellent reliability.

0.70 to 0.90 denotes high reliability.

0.50 to 0.70 denotes moderate reliability.

0.50 and below denotes low reliability (Hinton, McMurray, & Brownlow, 2014)

5.2 Normality Test

A normality test was carried out on the collected data to check whether it was normally distributed or not, the test was done using Shapiro-Wilk tests as per recommendations done by Uma Sekaran (2003) (Sekaran, Research Methods for Business: A Skill-Building Approach, 2003). The significance level for Resources is ($p > 0.05$) indicating normal distribution within the sample for this variable, as shown in Table 1. Additionally, significance levels of Engagement ($p < 0.05$) indicate that variables are not normally distributed through the sample.

Based on the central limit theorem, for large samples of more than 30 the sample means can be considered normally distributed despite population distribution (Field, 2009) (Ghasemi & Zahediasl, 2012). Therefore, a parametric test of the collected data can be used for carrying out correlation and regression analysis.

Table 2. Normality Test

<i>Tests of Normality</i>			
	Shapiro-Wilk		
	Statistic	df	Sig.
Engagement	0.941	30	0.096
Resources	0.969	30	0.510

5.3 Correlation Test

The correlation test is a statistical test which is used to check the relationship between independent variables (Resources) and dependent variables (Engagement), it was carried out on the collected data. The interval scale was used in questionnaire items for all variables, the Pearson correlation was used in the calculation of the correlation coefficient accordingly (Sekaran & Bougie, Research Methods For Business: A Skill Building Approach, 2016).

The range of correlation coefficient (r) is from -1 to +1, the value -1 represents a perfect negative correlation and the value +1 represents a perfect positive correlation between two variables (Sekaran & Bougie, Research Methods For Business: A Skill Building Approach, 2016).

The relationship between two variables in a correlation test based on the type of association can be positive or negative. The positive correlation between two variables means they are going in the same direction rising or falling, in the case of a negative correlation means that variables are going in opposite directions when one variable rises the other falls. The measure of correlation coefficient effect size is based on benchmarking of behavioral sciences to give the practical interpretation cutoffs of correlation results, based on guidelines given by Cohen (1988) the test followed cutoff intervals which are divided into 4 intervals as per Table 3 (Cohen guidelines for effect size interpretation below (Cohen, Statistical power analysis for the behavioral sciences, 1988) (Cohen, Cohen, West, & Aiken, 2003) (Nolan & Heinzen, 2011) (Bosco, Aguinis, Singh, Field, & Pierce, 2013).

Table 3. Cohen guidelines for effect size interpretation (Cohen, Statistical power analysis for the behavioral sciences, 1988)

Cohen guidelines for effect size interpretation	
Correlation coefficient value (r)	Effect size
(r) < .1	Negligible / Very small
(r) = .1 to .3	Small
(r) = .3 to .5	Medium
(r) > .5	Large

5.4 Correlation Between Engagement and Resources

The results indicate a statistically significant positive correlation between Engagement and Resources which means a higher Engagement is associated with higher Resources in this sample as shown in the table below. The correlation between Engagement and Resources is considered to be high since the correlation coefficient ($r = .786$, $p < .000$).

Correlations

		Engagement	Resources
Engagement	Pearson Correlation	1	.786**
	Sig. (2-tailed)		0.000
	N	30	30
Resources	Pearson Correlation	.786**	1
	Sig. (2-tailed)	0.000	
	N	30	30

** . Correlation is significant at the 0.01 level (2-tailed).

5.5 Regression

A simple linear regression test was carried out to assess the effect on Engagement (Outcome variable) based on the Resources (Predictor variable), the results indicate a significant regression equation ($F(1, 29) = 45.345$, $p < .001$), and R^2 of .618 which means that Resources can explain 61.8% of the change in Engagement.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. error of the Estimate	Durbin-Watson
1	.786 ^a	0.618	0.605	0.38214	1.931
a. Predictors: (Constant), Resources					
b. Dependent Variable: Engagement					

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.622	1	6.622	45.345	.000 ^b
	Residual	4.089	28	0.146		
	Total	10.710	29			

a. Dependent Variable: Engagement
 b. Predictors: (Constant), Resources

The unstandardized regression coefficient (B = .826, p < .001) indicating that for every one unit increase in Resources, there will be .826 unit increase in Engagement in case we consider all other variables are constant (Hair, Black, & Babin, 2010).

Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	0.848	0.494			1.716	0.097		
	Resources	0.826	0.123	0.786		6.734	0.000	1.000	1.000

a. Dependent Variable: Engagement

5.6 Moderation Test: Hierarchical Multiple Regression

The proposed hypothesis that LTA moderates the relationship between the dependent variable (Engagement) and independent variable (Resources) was tested by conducting a hierarchical multiple regression analysis using PROCESS 3.4 plugin for SPSS software which was developed by Andrew Hayes in 2013 for measuring the path analysis through mediation and moderation effect, the results of that tool shows the interaction of moderating and independent variables on the dependent variable in moderation models (Hayes, Montoya, & Rockwood, 2017).

The interaction between Engagement and Resources to LTA

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.8550	.7310	.1108	23.5533	3.0000	26.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	-10.2313	3.6636	-2.7927	.0097	-17.7623	-2.7004
Resources	3.6206	.9752	3.7127	.0010	1.6160	5.6252
LTA	3.8077	1.2460	3.0561	.0051	1.2466	6.3689
Int_1	-.9595	.3317	-2.8930	.0076	-1.6413	-.2777

Product terms key:

Int_1: Resources x LTA

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	.0866	8.3695	1.0000	26.0000	.0076

The interaction between the Resources as an independent variable and LTA as moderating Variable was found to be

statistically significant [$B = -.9595$, 95% CI (-1.6413 , $-.2777$), $p < 0.05$]. With a P value of $.0076 < 0.05$ indicating that the relationship between the Engagement and Resources is moderated by LTA, **which supports Hypothesis H2.**

6. Findings and Discussion

The JD-R Model was adopted in that research. It implies the importance of Job Resources to engagement and how it affects engagement positively (Bakker & Demerouti, 2008), according to the regression analysis results the resources including the hybrid working model and manager coaching have a significant statistical impact on engagement.

The JD-R Model showed the moderation impact of Job Demands on the relation between Job Resources and Engagement (Bakker & Demerouti, 2008), the moderation test results showed a significant statistical moderation effect for the LTA as a Job Demand.

The regression analysis shows that Job Resources have a statistically significant positive relationship to the dependent variable Engagement. This result suggests that Job Resources are significantly important to increase employee engagement, especially the hybrid working model, manager coaching and development plans as important components of Job Resources.

The results of hierarchical multiple regression analysis show a significant moderation effect of LTA on the relationship between independent variable Resources and dependent variable Engagement. This result suggests that LTA negatively affects the relationship between Resources and Engagement.

7. Conclusion

This study aims to determine the engagement under LTA conditions and the effect of Job Resources including the hybrid-working model, manager coaching and development plans. The study contributes to the literature by suggesting the significance of the moderation effect of LTA as a Job Demand on the relationship between Resources and Engagement. The study also provides insights to stakeholders such as managers and leaders to avoid the causes of having low levels of engagement despite their efforts on the Resources side.

This study used to expand the JD-R Model (Bakker & Demerouti, 2008) to include the hybrid working model and manager coaching as important components of the Job Resources and to focus on the LTA as a Job Demand and to test their effects on the dependent variable engagement. The data was collected through an online questionnaire using non-probability sampling.

The statistical analysis showed that Resources have a statistical significance in promoting engagement, while that positive relationship is moderated significantly by LTA.

8. Recommendations and Practical Implications

This study concludes focused model of assignments that affects employee engagement. The study findings provide insights to the managers and leaders on the impact of LTA on the engagement level of employees. According to the analyzed data, the researcher suggests that managers and leaders should consider techniques to shorten the assignment duration whenever applicable to minimize that effect and to focus on working models that consider work-life balance as the hybrid-working model considered in this study, also managers should focus on coaching and development of employees for better engagement.

Additionally, this study provides insights to top management to consider the training of managers for better coaching and development for working teams.

9. Limitations and Future Research

This research studied the effect of Resources including a hybrid-working model, manager coaching and development plans on employee engagement under the condition of long-term assignment in an engineering company in Egypt, the conclusions and the results might not be relevant to other regions or other sectors. Additionally, the sampling method was based on non-probability sampling which may not be representing the whole population. Specifically, respondents worked on the same project. Future research can work on sample extension to provide a broad view of results.

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