Empowering Generation Z in manufacturing organizations: a 6-factor self-determination extension

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Abstract

Purpose – This article seeks to explore the key motivational factors driving Generation Z (Gen Z), within the context of the significant influence of the digital paradigm, employing the Self-Determination Theory (SDT) as a content motivational framework.

Design/methodology/approach – Utilizing an abductive methodology, the study combines deductive insights from a systematic literature review on Gen Z's motivational predictors with inductive findings from a workshop involving six medium and large - scale global manufacturing companies. The synthesis of these results contributes to the creation of a matrix that highlights the relationship between motivational predictors and the psychological needs stemming from intrinsic motivation.

Findings – This paper suggests an extension of SDT tailored for Gen Z, identifying six motivational factors—autonomy, competence, relatedness, purpose, flow state, and achievement.

Practical implications – This research emphasizes the need for a modern leadership approach capable of effectively overseeing remote teams, fostering a balanced integration of personal and professional aspects, and nurturing individual purpose. This approach goes beyond fulfilling the basic needs of Maslow's pyramid to focus on elevating the significance of work, training, and employee engagement to satisfy higher levels of self-actualization and transcendence.

Originality/value – The study delves into the motivations of Gen Z, a demographics that has received limited attention in the existing literature. The integration of the six factors with SDT reflects a synthesis tailored to the distinctive characteristics of Gen Z and aligns with the principles of the PERMA model within positive psychology.

Keywords Digital paradigm, Employee engagement, Generation Z, Meaningful work, Self-determination theory, Organizational behavior

Paper type Research paper

1. Introduction

The digital paradigm is transforming organisations by implementing the latest and most advanced technologies (Bhore and Tapas, 2023; Salvadorinho *et al*., 2020; Yalenios and

d'Armagnac, 2023). However, it is well known that human talent is the key to transforming companies (Bhore and Tapas, 2023; Mejía-Manzano et al., 2022) and the best companies invest in their human resources (Achmad et al., 2023; Salvadorinho et al., 2024). That said, company managers are now actively seeking to attract and recruit the right talent for their organizations, as new work entrants bring in expertise in advanced and future technologies, particularly among Generation Z (Gen Z) (Bhore and Tapas, 2023; Malik and Malik, 2023).

This generation has very particular characteristics compared to other generations, such as tolerance of multiculturalism and diversity, self-confidence, and acceptance of a certain instability in their career paths (Bińczycki et al., 2023). Their global orientation broadens opportunities, propelling them to explore the world with a sense of purpose (Lifintsev et al., 2019). However, more research is needed to understand what motivates this generation, given that Generation Y (or Millennials) has been the most studied so far (Ortiz et al., 2020).

Gen Z includes young people born between 1995 and 2009 (Kirchmayer and Fratričová, 2018) or 2012 (Ameen et al., 2023) and they represent a group that is more open to ecological transformation and remote working (Bińczycki et al., 2023). This is a generation that is very connected to technology; hence, they are called digital natives (Rachmatdianto et al., 2023; Satpathy et al., 2019).

This article seeks to uncover the motivational determinants of Gen Z by employing the SDT as a content motivational framework. SDT was selected for its emphasis on internal motivation sources, such as the desire for knowledge and independence (intrinsic motivation). Gen Z values intrinsic motivation the most, making it crucial for Human Resources management to address this to retain this workforce (Mahmoud et al., 2021a). Given that Gen Z, along with Generation Y, will soon dominate the job market, taking effective measures is essential for long-term retention. The research question is therefore: *"What predictors of intrinsic motivation does Generation Z incorporate?"*. An abductive methodology is applied to answer this question, combining deductive insights from a systematic literature review on Gen Z's motivational predictors with inductive findings from a workshop involving six manufacturing companies. The synthesis of these results allows for creating a matrix that highlights the relationship between motivational predictors and the psychological needs stemming from intrinsic motivation. This matrix undergoes development with the collaborative input of five experts and an inter-reliability index is computed.

The paper comprises six sections: a literature review on Gen Z motivational predictors and content motivation theories; an explanation of the applied abductive methodology; the presentation of results from the systematic review, workshop, and matrix construction; and discussion and final remarks.

2. Literature review
2.1 Gen Z motivational predictors
Generation Y (Millennials) has been the most researched so far, and with Gen Z now the new entrant to the labour market, it is essential to understand what motivates them to, consequently, retain these young people (Ortiz et al., 2020). Therefore, this section will only show the results of studies that have focussed on this generation.

In the studies carried out by the researchers Kirchmayer and Fratričová (2018), Kuzior et al. (2022) and Törn-laapio and Ekonen (2021), having meaningful work is a vital factor in motivating Gen Z, which is in line with the results of previous studies. Meaningful work is characterized by the belief that someone feels that their efforts contribute to positively impact society, foster personal development and carry intrinsic significance (Autin et al., 2022; Ghadi et al., 2015). Gen Z prioritise personal life goals, which include pursuing one's passions, over career and professional success (Bińczycki et al., 2023; Dreyer and Stojanová, 2023). Hence, this generation's top priorities are not focused on the labour market but rather on happiness, family, the freedom to pursue their passions with enthusiasm (Bińczycki et al., 2023; Chala et al., 2022) and the importance of ecology (Bińczycki et al., 2023). Nevertheless, this does not imply that organizational values are not important to this generation. In fact, they rank among

the key reasons for moving jobs (Kuzior *et al*., 2022). Thus, Gen Z employees demonstrate a heightened environmental concern by focusing on sustainability, accountability, and "conscious consumption". Corporate social responsibility (CSR) is vital to them, shaping their self-image and view of the organization. They favour companies that prioritize this, seeing them as ethical, impactful, and great places to work (Pandita and Khatwani, 2022).

Workplace flexibility is another factor to consider (Jung and Yoon, 2021; Satpathy *et al*., 2019), as this generation values the opportunity to work remotely (Prund, 2021). Flexibility in work arrangements arises from the necessity to harmonize professional and personal life (Bińczycki *et al*., 2023; Dreyer and Stojanová, 2023).

Opportunities for both personal and professional development (and promotion) are essential to retain and engage Gen Z workers (Achmad *et al*., 2023; Bińczycki *et al*., 2023). On the other hand, Gen Z exhibits minimal concern for job security and is generally uninterested in long-term commitments (Kirchmayer and Fratričová, 2018). Gen Z prioritize finding fulfilling work and are unlikely to stay in a job that lacks personal satisfaction (Bińczycki *et al*., 2023; Kirchmayer and Fratričová, 2018).

Considering leadership, even though technology is an intrinsic part of Gen Z′ lives, when it comes to communicating with managers, they prefer honest personal communication (Yohana F. *et al*., 2021) and recognition of their work (Bińczycki *et al*., 2023). Authentic leadership is an effective style for Gen Z, fostering the growth of psychological capital (PS) in employees. This enhancement of PsyCap increases the likelihood of higher employee engagement (Sigaeva *et al*., 2022). Moreover, this is a generation that demands support from its leadership (Wong *et al*., 2021), and where mentoring and coaching techniques make a difference (Loring and Wang, 2022; Prund, 2021). Nevertheless, even with more hands-on guidance, it is crucial to recognize that this generation still values autonomy (Schmidt and Schmidt, 2020; Yohana F. *et al*., 2021).

For Gen Z, the work environment is critical, emphasizing positive relationships and inclusivity (Bińczycki *et al*., 2023; Loring and Wang, 2022; Satpathy *et al*., 2019; Törn-laapio and Ekonen, 2021). They value diversity, fairness, and equal opportunities and seek a supportive and diverse workplace culture (Bhore and Tapas, 2023; Chala *et al*., 2022).

A high base salary aligned with acquired education is crucial for the entry of Gen Z into an organization (Bińczycki *et al*., 2023; Chala *et al*., 2022). However, beyond financial compensation, these young individuals value initiatives that offer non-monetary incentives (particularly through talent development) more than performance-based incentives (Tarigan *et al*., 2022; Zehetner *et al*., 2022). In addition, the pandemic has highlighted mental health as a key concern. A study by Rachmatdianto *et al*. (2023) in Indonesia's digital industry emphasizes the need for companies to offer mental health support, such as counselling. Physical health incentives, like healthcare packages or sports activity subscriptions, are also essential (Ivasciuc *et al*., 2022).

In the investigation conducted by Lašáková *et al*. (2023), it is observed that while extrinsic rewards can serve as effective instruments for overseeing young employees, it is advisable for companies not to concentrate solely on them. This is because motivation derived from the inherent nature of the work (intrinsic motivation) is becoming increasingly significant, particularly among the Gen Z demographic (Mahmoud *et al*., 2021a, b). Notably, women seem to place high importance on having a dream job, wherein the nature of the work aligns with their personal preferences (Lašáková *et al*., 2023).

2.2 Content motivation theories

This section explores content theories of human motivation, which categorize internal factors that energize, guide, support, and hinder human behavior (Gambrel and Cianci, 2003).

Considering Maslow's theory, human needs are structured in a hierarchical system, placing physiological (survival) needs at the base and the more creative and intellectual needs at the pinnacle (Rouse, 2004). The hierarchy encompasses five levels: physiological, safety, love/belonging, esteem, and self-actualization (Maslow, 1943). Maslow's five-stage model from 1943 to 1954 has been extended to encompass cognitive and aesthetic needs as introduced in

the (Maslow, 1954) work, and subsequently, transcendence needs were added in the (Maslow, 1964) publication (see Figure 1). Addressing deficiency needs is a prerequisite for satisfying higher-level needs (Rouse, 2004).

To align Maslow's need hierarchy theory of motivation with empirical research, Clayton Alderfer introduced a redefined version known as the ERG theory of motivation. Three broader classes of needs were presented (Alderfer, 1969; Caulton, 2012): Existence needs (an individual's physiological and physical safety needs), relatedness needs (meaningful interpersonal relationships and the pursuit of public recognition) and growth needs (the desire for self-development, personal growth, and progression).

According to SDT, achieving optimal workplace functioning relies on satisfying three psychological needs: autonomy, competence and relatedness (Ryan and Deci, 2000). Autonomy implies that individuals should have a voice in how their work is conducted and the freedom to align their actions with their values (Gagné and Deci, 2005). The pursuit of competence fuels a person's motivation to expand their skillset and gain mastery over their surroundings (Autin *et al*., 2022; Ryan and Deci, 2000). Relatedness is characterized by the desire to establish meaningful relationships with others (Manganelli *et al*., 2018).

Herzberg formulated a two-factor theory outlining the factors that impact individuals' work attitudes and the model's core revolves around distinguishing between motivation (intrinsic-inherent to the job itself) and hygiene (extrinsic-external to the job) factors. Consequently, motivation factors exclusively contribute to enhancing job satisfaction, while hygiene factors function to mitigate job dissatisfaction (Alshmemri *et al*., 2017).

McGregor's Theory X and Theory Y represent contrasting management approaches (McGregor, 1960). Theory X embodies an authoritarian management style, whereas Theory Y embraces a participative approach (satisfaction comes from meaningful work and challenges) (McGregor, 1960; Morton, 1975).

McClelland (1976) delves into three primary human motivators (McClelland's human motivation theory): power, achievement, and affiliation. His theory asserts that individuals generally possess one predominant need that serves as the guiding force behind their actions.

Later, in 2011, Seligman presented a model of well-being (linked to positive psychology) based on five main pillars and with a handy mnemonic of PERMA. In this model, "P" stands
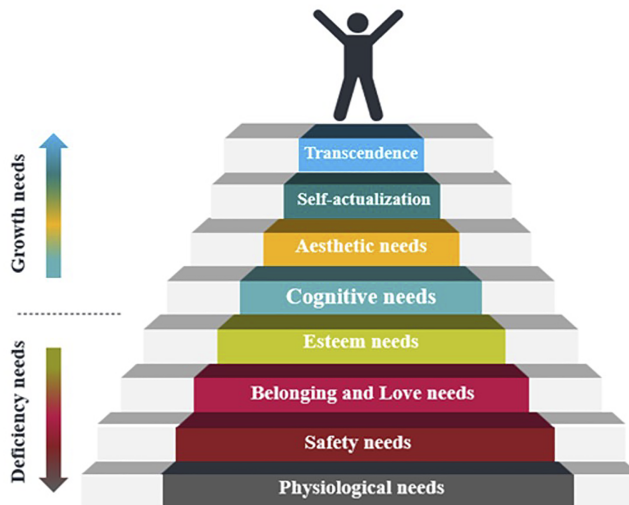
Source(s): Authors' own creation (based on Maslow (1964))

Figure 1. Maslow hierarchy of needs

for positive emotions, "E" for engagement, "R" for positive relationships, "M" for meaning and "A" for accomplishments (Seligman, 2011).

Table 1 summarizes various motivation theories explored earlier, highlighting outcomes from studies applying these frameworks in the context of Gen Z. Notably, only Maslow's Hierarchy, SDT, and the PERMA model have been applied in this context.

SDT was selected as the motivational framework for this study because of its ability to differentiate between various types of motivation that employees may experience (Gagné et al., 2022): intrinsic motivation (driven by interest and enjoyment), extrinsic motivation (pursued for external rewards), and amotivation (a lack of motivation altogether). This study emphasizes intrinsic motivation, as Gen Z prioritizes it for fostering well-being and organizational commitment (Mahmoud et al., 2021a). SDT is built around three core intrinsic motivational factors—relatedness, competence, and autonomy—that are fundamental to the fulfilling of human's intrinsic Moreover, Gen Z places a stronger emphasis on individuality and self-reliance compared to Generation Y, and this is evident in both their educational and

Table 1. Content motivation theories summary

Content motivational theory	Human needs	Gen Z studies
Maslow's theory	Physiological; Safety; Love/Belonging; Esteem; Self-Actualization; Cognitive; Aesthetic and Transcendence Needs	Democratic learning, reverse mentoring, and intrapreneurship have significant potential to shape Generation Z workers by promoting their self-actualization, a key aspect of Maslow's hierarchy of needs (Jayathilake et al., 2021)
ERG theory	Existence; Relatedness and Growth Needs	There are no studies focussing on this issue
Self-determination theory	Autonomy; Competence and Relatedness	Generation Z employees place less emphasis on identified regulation as a driving factor for motivation. Consequently, this generation demonstrates a stronger inclination towards occupations that foster inherent contentment, upholding intrinsic motivation more prominently than their predecessors (Mahmoud et al., 2021a)
Two-factor theory	Motivation and Hygiene factors	There are no studies focussing on this issue
McGregor's theory X and theory Y	–	There are no studies focussing on this issue
McClelland's human motivation theory	Power; Achievement and Affiliation	There are no studies focussing on this issue
PERMA model	Positive Emotions; Engagement; Positive Relationships; Meaning and Accomplishments	No statistically significant differences were observed in the average scores of happiness and well-being (measured using the PERMA Profiler) across the three generations (Generation X, Y, and Z) (Khan et al., 2021). Incorporating positive emotion, engagement, relationships, meaning, and accomplishments elements, along with digital tools, into the teaching and learning process can significantly enhance student motivation (Khalid et al., 2023)

Source(s): Authors' own creation

professional environments (Gaidhani and Sharma, 2019; Kutlak, 2021). Gen Z values making informed decisions, engaging in open dialogue, and having their contributions recognized (Gaidhani and Sharma, 2019). SDT supports this by emphasizing autonomy and the ability to guide one's own actions, fostering self-reliance. Therefore, SDT aligns with Gen Z's two key distinguishing traits compared to other generations: their focus on intrinsic motivation and their heightened sense of self-reliance.

3. Methodology

3.1 Research design

The aim of this paper was to determine the motivational factors of Gen Z, using SDT. In order to answer the research question, this paper uses an abductive methodology, integrating inductive and deductive approaches (Hurley *et al.*, 2021). Abduction offers stronger explanations for understanding unexpected phenomena than induction, as it integrates both theoretical concepts and empirical observations, providing more robust evidence (Hurley *et al.*, 2021). This article employs a deductive process by systematically analyzing the literature on motivation predictors in Gen Z. The identified predictors are then integrated into an inductive process through a workshop involving employees from six organizations (refer to Table 2 and Table 3). This workshop aims, through the participants' professional experience, to understand the motivational predictors of Gen Z, thus accessing the empirical world. It consists of three phases: initial discussion based on the participants' professional experience and capturing their perception of Gen Z, presentation of data from the literature and incorporation of additional predictors using pink post-its. In the final phase, participants categorise and classify the post-its based on their importance. According to Sætre and Van De Ven (2021), the abductive process commences as one or more scholars initially diverge to observe and subsequently converge to verify an anomaly. Following this, they diverge once more for the purpose of development and then converge again to select the plausible hunches intended to resolve the identified anomaly. This was the approach employed by the authors in Stage 2–4 (see Figure 2). It is worth noting that the abductive process reached its culmination by amalgamating the outcomes derived from the systematic review and the workshop. This amalgamation involved creating a matrix to cross-reference the psychological needs outlined in the SDT with the motivational factors of Gen Z. Figure 2 illustrates all the methodological approaches.
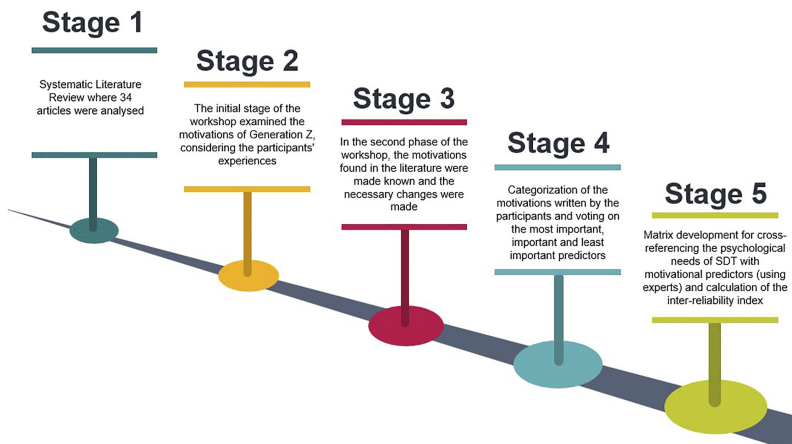
Table 2. Companies summary

Company	No. of employees	Headquarters	No. countries	Company years	Company sector
Company A	16,000	Switzerland	125	70	Trading of high technology components and provision of project application engineering
Company B	2,400	United Kingdom	5	52	Instrumentation
Company C	200	United Kingdom	1	44	Pharmaceutical
Company D	40,000	United Kingdom	2	50	Automotive research, development and engineering
Company E	3,300	Finland	19	48	Labeling materials
Company F	5,000	United Kingdom	3	120	Construction

Source(s): Authors' own creation

Table 3. Workshop participants

Job title	Age	Company
Application Consultant	40–50	Company A
Deputy Internal Sales Manager	30–40	Company A
Lean and Process Manager	20–30	Company A
Head of Quality Lean and IT	50–60	Company A
Senior Business Excellence Manager	40–50	Company B
Head of Production	40–50	Company C
Production Leader	30–40	Company D
Production Leader	40–50	Company D
Manufacturing Business Excellence Manager	40–50	Company D
Lean Engineer	30–40	Company D
Global Continuous Improvement Manager	40–50	Company E
Operations Manager	40–50	Company F
Group Operational Excellence Director	40–50	Company F

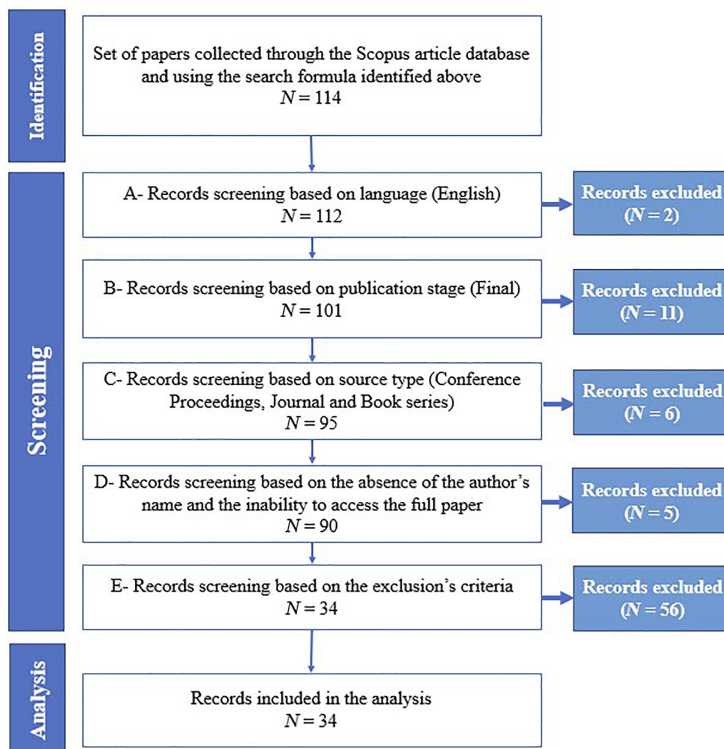**Source(s):** Authors' own creation

Stage 1
Systematic Literature Review where 34 articles were analysed

Stage 2
The initial stage of the workshop examined the motivations of Generation Z, considering the participants' experiences

Stage 3
In the second phase of the workshop, the motivations found in the literature were made known and the necessary changes were made

Stage 4
Categorization of the motivations written by the participants and voting on the most important, important and least important predictors

Stage 5
Matrix development for cross-referencing the psychological needs of SDT with motivational predictors (using experts) and calculation of the inter-reliability index

Source(s): Authors' own creation

Figure 2. Methodological process

3.2 Data collection methods

The deductive process appears through a systematic analysis of the literature on the predictors of motivation in Gen Z. Figure 3 shows the PRISMA scheme of the filtering process applied to the articles found in SCOPUS with the following search formula: ("Generation Z" or "Gen Z" or "Zoomers") AND ("industry" OR "business" OR "corporation" OR "management" OR "organization" OR "organisation") AND ("job satisfaction" OR "work engagement" OR "employee engagement" OR "motivation"). The research formula implemented in September 2023 aims to cross-reference Gen Z with the motivational factor (engagement) and the organizational environment. The inclusion criteria were based on papers focussing on the motivational factors of Gen Z in the manufacturing or service industries.

The inductive process involved a workshop with employees from medium, and large companies across various countries (Table 2), ensuring diverse perspectives. The participants, belonging to Generations X or Y (with no bias for Gen Z), held different leadership levels (refer to Table 3). The selected activity areas span the entire organization, ensuring that the
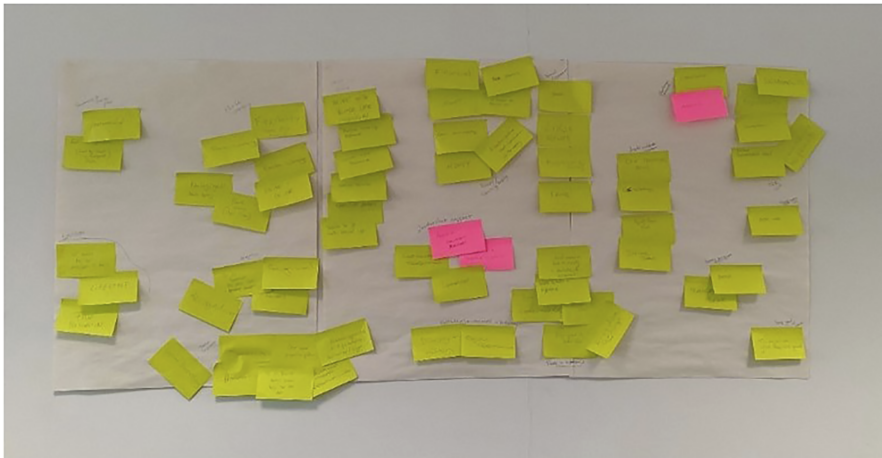
Source(s): Authors' own creation

Figure 3. PRISMA scheme

sample includes staff from various departments. The enterprises were randomly selected, with no researcher bias, and the workshop was open to all, allowing anyone interested to enrol. However, since the registered companies were from the manufacturing industry, the study's scope became limited to that sector.

The workshop, divided into three phases, was a unique event. In the first phase, participants identified Gen Z's motivation indicators on 63 green post-its. The second phase involved analysing these indicators against the literature, with participants adding only three new predictors ("Positive Managers", "Innovation", and "Mentoring + Leadership Support"). In the final phase, the post-its were grouped into 17 categories (see Plate 1) through a moderated consensus process (involving the participants and two researchers). The factors were then ranked by importance, and the results summarized in Table 5 (which summarizes the outputs of the workshop). The research adhered to all ethical guidelines set by the University of Aveiro's ethics committee and received full ethical approval. Participant consent was obtained, and confidentiality and anonymity were maintained throughout the publication process.

3.3 Data analysis methods
The systematic review's results were obtained through in-depth content and thematic analysis. Based on the workshop results and aligned with Sætre and Van De Ven (2021), a two-step verification process was implemented for cross-referencing. Initially, the five authors independently reviewed the predictors. After this autonomous process, a discussion was held

Source(s): Authors' own creation

Plate 1. Grouping process result

to determine the addition of further elements beyond the SDT psychological needs, based on the researchers' knowledge of content motivational theories. This led to the creation of a table of meanings for each psychological need, including both those already defined in SDT and those added by the authors. The first three authors then independently categorized the predictors with the psychological needs, incorporating the additional elements: purpose, flow state, and progress. Following this, a discussion took place, and after reaching consensus, authors 4 and 5 conducted a double validation. This verification phase also required unanimous agreement among all authors. To assess the level of consensus among the first three authors in the established categorization, the Fleiss Kappa inter-reliability index was calculated. To this end, the following hypotheses were created.

  H0. The researchers agree with each other.

  H1. The researchers do not agree with each other.

Thus, Fleiss Kappa can have various values with different meanings: (1) if < 0.00 - poor agreement; (2) 0.00 to 0.20 – slight agreement; (3) 0.21 to 0.40 – fair agreement; (4) 0.41 to 0.60 - moderate agreement; (5) 0.61 to 0.80 - substantial agreement and; (6) 0.81 to 1.00 - almost perfect agreement.

4. Results
The Systematic Literature Review (SLR) on Gen Z's motivational predictors initially involved mapping and later categorizing them into four groups based on their relationships. These categories include organization (institutional changes), individual (personality factors), leadership (influenced by leaders), and environment (organizational relationships), as illustrated in Table 4.

In the organisation group, the younger generation is more aware of the organisation's values (Kuzior *et al.*, 2022), especially regarding sustainability and corporate social responsibility (Pandita and Khatwani, 2022). Gen Z prioritizes making a positive impact, and misalignment with this goal is a significant reason to leave an organization. While they desire a stable initial fixed salary, it alone is not sufficient to retain them (Kirchmayer and Fratričová, 2018). Non-monetary incentives are decisive in promoting motivation (Tarigan

Table 4. Motivational predictors from systematic literature review

Categories	Motivational predictors					
Organization	Companies 'values (Kuzior et al., 2022)	Sustainability and accountability (Pandita and Khatwani, 2022)	Financial security (high fixed salary) (Kirchmayer and Fratričová, 2018)	Non-monetary incentives preference (Tarigan et al., 2022; Zehetner et al., 2022)	Remote work/Work flexibility (Bińczycki et al., 2023)	Autonomy in decision-making (Schmidt and Schmidt, 2020; Yohana F. et al., 2021)
Individual	Intrinsic motivation (Mahmoud et al., 2021; Mahmoud et al., 2021)	Tendency to change jobs (Kirchmayer and Fratričová, 2018)	Separation work-life time (Bińczycki et al., 2023; Dreyer and Stojanová, 2023)	Meaningful work/ Purpose (Kirchmayer and Fratričová, 2018; Kuzior et al., 2022)	Prioritize personal life goals (Bińczycki et al., 2023)	Pursuit own passions and hobbies (Bińczycki et al., 2023)
Leadership	Need for mentoring (Senior Management Support) (Loring and Wang, 2022; Prund, 2021)	Employer needs to show respect, kindness, and constructive and ongoing feedback (Kirchmayer and Fratričová, 2018)	Opportunities for professional development (talent development) (Achmad et al., 2023; Bińczycki et al., 2023)	Authentic leadership (which elevates PsyCap) (Sigaeva et al., 2022)		
Environment	Innovation and creative environment (Mejía-Manzano et al., 2022)	Multicultural environment (Lifintsev et al., 2019)	Friendly atmosphere and need for human interaction (Bińczycki et al., 2023; Loring and Wang, 2022; Satpathy et al., 2019)			

Source(s): Authors' own creation

et al., 2022; Zehetner et al., 2022) and openness to labour flexibility, including remote working (Bińczycki et al., 2023), is preferred. It should be noted that despite this generation's fondness for leadership support, they still value autonomy in decision-making (Schmidt and Schmidt, 2020; Yohana F. et al., 2021).

Within the cluster centered on the individual, the distinctive inclination of this generation towards intrinsic motivation stands out, placing significant emphasis on the importance of having a meaningful job (Kirchmayer and Fratričová, 2018; Kuzior et al., 2022). In the absence of a fulfilled purpose, these individuals are less likely to remain affiliated with the organization (Kirchmayer and Fratričová, 2018). Also, personal objectives (if not aligned with the organization) take precedence, encompassing individual passions and hobbies (Bińczycki et al., 2023).

In the leadership category, authentic and charismatic leadership surfaces as a favoured style intricately connected to the enhancement of PsyCap, thereby elevating intrinsic motivation

Table 5. Ranking of predictors by order of importance

Predictors	Measures Number of people who rated it as most important	Number of people who rated it as important	Number of people who rated it as least important	Number of people who voted	Number of people who wrote/identified the predictor
Enjoy work	10	3	0	13	1
Challenging goals	2	7	4	13	2
Being good at work	2	7	4	13	1
Corporate social responsibility	9	4	0	13	5
Digital enablers	2	8	3	13	4
Having purpose	10	3	0	13	2
Multicultural environment	11	2	0	13	2
Social exposure	11	2	0	13	4
Leadership support	9	4	0	13	4
Make a difference	3	9	1	13	6
Career progression	5	6	2	13	7
Monetary safety	5	6	2	13	7
Tendency to change jobs	7	4	2	13	2
Recognition	6	7	0	13	4
Having fun in their lifestyles	2	8	0	10	3
Flexible working	11	2	0	13	6
Work life balance	13	0	0	13	6

Source(s): Authors' own creation

(Christopher Lee and Lim, 2024; Fermiano Fidelis *et al*., 2021). Leaders who demonstrate self-awareness, mentoring and coaching abilities, communicate with transparency and consistency, and prioritize both personal and professional development, while showing genuine commitment to the well-being of others, are more highly regarded (Achmad *et al*., 2023; Kirchmayer and Fratričová, 2018; Loring and Wang, 2022; Sigaeva *et al*., 2022).

Within the environment category, it is evident that this generation places great emphasis on workplace relationships (Bińczycki *et al*., 2023; Loring and Wang, 2022; Satpathy *et al*., 2019), values inclusivity, and is receptive to collaborating in multicultural settings (Lifintsev *et al*., 2019). Moreover, creating an innovative environment is vital as it provides the challenge necessary to stimulate members of this young generation (Mejía-Manzano *et al*., 2022).

The workshop outcomes are summarized in Table 5, presenting the importance ratings for each predictor based on participants' perspectives, along with the initial consideration count during the exercise compiling motivational predictors. It should be noted that when the results of the systematic review were shown, the participants were free to add more pink post-its of motivational predictors, which were "Positive Managers", "Innovation", and "Mentoring + Leadership Support". The positive leadership aspect is gaining strength, but given the results obtained in the first phase, this is not considered a major change.

Table 6. Psychological needs meanings

Intrinsic motivation predictors	Meaning
Autonomy	People must be free to have a say in how their work is carried out and must be able to act in harmony with their values (Manganelli *et al*., 2018; Ryan and Deci, 2000)
Competence	The desire for competence is a fundamental aspect of human nature, prompting individuals to strive for self-improvement and mastery in various domains (Autin *et al*., 2022; Manganelli *et al*., 2018; Ryan and Deci, 2000)
Relatedness	Feeling the desire to be able to build and have meaningful relationships with others (Legault, 2017; Manganelli *et al*., 2018; Ryan and Deci, 2000)
Purpose/Beneficence	The subjective perception that a person holds a job that enables he/she to contribute to a greater good above him/herself, while facilitating personal growth and having meaning (Autin *et al*., 2022; Martela and Riekki, 2018)
Flow State/Balance	Entering a state of flow requires that there is a balance between perceived action capabilities and perceived action opportunities (Keller and Bless, 2008). Achieving a balance between competences and challenges is crucial. When both are low, apathy ensues; when challenges exceed competences, anxiety arises, and when competences surpass challenges, boredom/relaxation prevails. Optimal balance occurs when both competences and challenges are high, leading to a flow state and a heightened quality of experience (Cziksentmihalyi, 1990)
Progress/Achievement	It is based on having a productive and meaningful life, even when it brings nothing in the way of positive relationships (Seligman, 2018). For well-being to be achieved, individuals must be able to look back on their lives with a sense of fulfilment: "I did it, and I did it well" (Kun *et al.*, 2017)

Source(s): Authors' own creation

The results of the SLR were added to the results of the workshop and the aim was to match each motivational predictor to the influence considered greatest on each of the psychological needs covered by SDT (autonomy, competence and relatedness). After assigning the predictors to three original dimensions of SDT (based on the definition provided in Table 6), the left-over predictors were grouped into three additional categories. These additional categories were named as purpose, flow state, and progress. The meanings of these three additional aspects have also been considered in Table 6.

In the cross-reference process, the first three authors, using the definitions in Table 6, mapped the motivation indicators individually in relation to the fundamental human needs. The Kappa statistic is the result of the consensus reached between the three co-authors when classifying the predictors according to the needs. After this, the last two authors carried out a second validation of the cross-referencing carried out. The value of the Fleiss Kappa inter-reliability index was calculated, resulting in 0.7176 (Table 7), to realise the level of general agreement. According to Landis and Koch (1977), this is a value that reveals substantial agreement among the observers (>0.6). Therefore, the null hypothesis (H0) stating that "The researchers agree with each other" is confirmed. Table 8 shows the final matrix.

Table 7. Fleiss Kappa calculation

Inter-reliability index calculation (Fleiss Kappa)	
Pe (expected agreement if random judgement)	0.7222
Po (observed agreement)	0.9216
Fleiss Kappa (K)	0.7176

Source(s): Authors' own creation

Table 8. Matrix (motivational predictors vs human fundamental needs)

Predictors	Autonomy	Competence	Relatedness	Purpose	Balance (flow state)	Progress/achievement
Tendency to change jobs						x
Flexible and remote working	x					
Recognition						x
Career progression						x
Work-life balance					x	
Leadership support			x			
Multicultural environment			x			
Make a difference				x		
Monetary safety					x	
Social exposure			x			
Digital enablers		x				
Having purpose				x		
Being good at work		x				
Challenge					x	
Corporate social responsibility				x		
Fun/lifestyle					x	
Companies' values				x		
Sustainability and accountability				x		
Financial security (high fixed salary)					x	
Non-monetary incentives						x
Autonomy in decision-making	x					
Separation work/life time					x	
Personal life goals prioritization					x	
Pursuit of their own passions and hobbies (above career)				x		
Need for mentoring (senior management support)			x			
Employer needs to show respect, kindness and constructive and ongoing feedback			x			
Search for opportunities for professional development						x
Authentic leadership			x			
Innovation and creative environment					x	
Need for human interaction			x			

Source(s): Authors' own creation

5. Discussion

Gen Z manifests itself as a generation that values intrinsic motivation and is more self-reliant (Kutlak, 2021) compared with other generations. In the context of content motivation theories, SDT is the one most geared towards intrinsic motivation, focusing on creating more self-reliant people.

The abductive analysis in this study bridged the gap between theory (SLR) and practical application (workshop), reducing scientific bias. Validation stages, relying on expert consensus, were pivotal in identifying and establishing three new intrinsic motivational factors.

The psychological needs evidenced by SDT have proved insufficient when it comes to motivating Gen Z. The addition of three more needs-purpose, flow state/balance and progress/achievement, was preponderant in matching the matrix.

There are also at least two studies (Autin *et al*., 2022; Martela and Riekki, 2018) in which meaningful work (purpose) is recognised as a preponderant factor in motivation to work, adding to the three factors of SDT. In both cases, the authors used structural equations to validate the influence. Gen Z wants to make a difference in the world of work, and for this very reason, having a job with purpose is crucial for them to remain in the organization (Chaudhry, 2024). This purpose must, from the outset, be aligned with the company's, and this alignment must be realized right at the time of recruitment. Yeoman's (Yeoman, 2014) study argues for the need to recognize meaningful work as a fundamental need, underpinned by the inexhaustible interests of freedom and dignity. In Maslow's hierarchy, the sense of purpose is also recognized, belonging to the self-actualization level (Maslow, 1943). Here arises a requirement within the organization to provide conditions conducive to fulfilling higher needs in Maslow's pyramid. Regarding CRS and according to the studies revealed by (Nazir *et al*., 2021; Pandita and Khatwani, 2022; Subedi *et al*., 2023), employee participation in this issue positively affects their sense of mission and their experience of meaning (related with purpose), which consequently affects their engagement and commitment to the organization. Moreover, it should be noted that in Table 5 "Having Purpose", 10 of the 14 people who voted consider this to be a very important factor in motivating Gen Z, when in fact only 2 people reported it in the Stage 2 of the workshop. This shows that although it is not something that most people think about, when it has been put forward as a potential motivator, most people agree.

According to Cziksentmihalyi (1990), the flow State arises from the balance of individual characteristics (such as skills) and environmental factors, namely the demands. For this state to be achieved, the competencies and task requirements in relation to the flow experience must be in equilibrium. The results also suggest that the perception of adequacy between competencies and task requirements is crucial regarding the emergence of intrinsic motivation. The onset of burnout occurs when there is an imbalance in the flow state, with demands surpassing personal characteristics. Given Gen Z's heightened awareness of this factor, it becomes imperative to consistently address it as a concern within the organization. This generation places a premium on personal life and seeks a harmonious work-life balance (Bińczycki *et al*., 2023; Dreyer and Stojanová, 2023). Moreover, they seek financial stability (Bińczycki *et al*., 2023; Chala *et al*., 2022) but are not bound to an organization that does not align with their purpose (Kirchmayer and Fratričová, 2018). In the meta-analysis conducted by Schutte and Malouff (2022), the analysis of 17 studies involving 10,102 participants showed a significant positive relationship between mindfulness and flow, with a meta-analytic effect size of $r = 0.38$ ($p = 0.0001$). This suggests that higher mindfulness is associated with increased levels of flow. Furthermore, in the study of Ryan *et al*. (2021), researchers explain that mindfulness is not a motivational state but an observational and receptive one, enhancing awareness and experience processing. While motivation drives behaviour, mindfulness foster autonomy, supporting better decision-making through increased awareness.

Regarding the achievement/progress factor, younger people have a special appetite for professional development and career progression (Achmad *et al*., 2023; Bińczycki *et al*.,

2023); the more aligned with the individual purpose the better. Once again, this is a factor belonging to the higher levels of Maslow's hierarchy, belonging more preponderantly to self-esteem (Maslow, 1943; Rouse, 2004) (although it can also satisfy self-actualization, being more attached to the individual purpose). Similar to Maslow's pyramid is the ERG theory where the progress/achievement factor fits perfectly into growth needs (Caulton, 2012).

The remaining factors, belonging to SDT, are aligned with their initial meaning. Autonomy is essential in this generation that pursues flexible working and seeks to be part of organizational decision-making (Bińczycki et al., 2023; Schmidt and Schmidt, 2020; Yohana F. et al., 2021). At the level of competence, the urgency of obtaining skills aligned with the new digital paradigm is evident. In the context of relationships, the leadership style to be implemented is extremely important, where mentoring skills, transparency, empathy and charismatic traits are valued (Christopher Lee and Lim, 2024; Loring and Wang, 2022; Prund, 2021).

The amalgamation of the three added factors reflects the principles embedded in the PERMA model. The three additional factors echo similarities with the concept of flow state for engagement, purpose for meaning, and progress for accomplishment, crucial for human fulfillment. Notably, among the three factors emphasized in SDT, the model encompasses only relatedness through positive relationships, thereby presenting a synthesis that blends elements of SDT with the PERMA model.

6. Final remarks
6.1 Theoretical contributions
Methodologically, this paper introduces an abductive approach designed to integrate literature with organizational perspectives, thereby alleviating scientific bias in the relatively underexplored domain of Gen Z. Given that Gen Z research is still in its early stages, conducting exploratory studies, as demonstrated in this paper, becomes essential.

At a theoretical level, this paper contributes by analysing the motivational predictors of Gen Z, introducing a novel perspective to SDT with six motivational factors: autonomy, competence, relatedness, purpose, flow state, and achievement. The inclusion of purpose expands upon the three psychological needs in SDT, reflecting this generation's emphasis on meaningful work aligned with organizational and individual values (Kirchmayer and Fratričová, 2018; Kuzior et al., 2022). The attainment of a flow state necessitates a harmonious balance among all factors, underscoring the importance of aligning individual traits with external demands to prevent mental health issues, such as burnout (Cziksentmihalyi, 1990). Mindfulness practices can significantly enhance this dynamic (Schutte and Malouff, 2022). Lastly, the achievement factor underscores the inherent human need for fulfilment, as illustrated in ERG theory within the growth needs category (Caulton, 2012) and Maslow's pyramid under self-esteem (Maslow, 1943). Within the organizational context, it becomes apparent that fulfilling higher needs, particularly at the levels of self-esteem and self-actualization, is essential. Notably, these six factors demonstrate an integration of SDT with the PERMA model, tailored to the characteristics of Gen Z.

6.2 Practical implications
The findings of this study underscore the necessity for changes in people management processes, particularly in the realm of leadership. This study identifies eight key HR management strategies for Gen Z, based on leaders' perspectives: (1) prioritize intrinsic motivation; (2) align purpose and values during recruitment; (3) emphasize non-monetary incentives and growth opportunities; (4) promote work-life balance to foster a flow state; (5) provide comprehensive mental and physical well-being support; (6) adapt leadership to address Gen Z's specific needs; and (7) implement a holistic people management approach.

Gen Z values intrinsic motivation significantly more than previous generations. Organizations should focus on creating environments that offer fulfilling roles and

opportunities for personal and professional development. To attract and retain this workforce, recruitment processes should emphasize purpose-driven roles (Kuzior *et al*., 2022). Purpose should not only be a part of the organizational mission but should also be actively communicated from the hiring stage to ensure alignment with employee values. While a fair salary is important for Gen Z, they prioritize non-monetary incentives (Tarigan *et al*., 2022). Upskilling programs, talent development, and mentoring are key to maintaining their long-term engagement. Apart from this, Gen Z values work-life balance and seeks environments that enable a flow state, where their skills match the demands of their tasks, leading to productivity without burnout. To support this, organizations should offer flexible work policies and systems that help employees maintain this balance and avoid mental fatigue. In the wake of COVID-19 and growing mental health awareness, companies must offer mental health support, such as counselling and mindfulness programs, alongside physical well-being incentives like health packages and gym memberships (Rachmatdianto *et al*., 2023). These initiatives are essential, not just perks, for motivating and retaining Gen Z employees. Leadership must adapt to meet Gen Z's preferences by embracing transparency, empathy, and strong mentorship. Managers should also develop coaching skills to guide remote teams effectively, creating a balanced environment that supports both personal and professional growth (Christopher Lee and Lim, 2024; Loring and Wang, 2022). The study urges a shift from transactional approaches, like salary focus, to addressing higher needs in Maslow's hierarchy—belonging, self-actualization, and transcendence. This requires fostering strong relationships, autonomy and competence, but also, offering meaningful work (purpose), career progression and personal development (to promote achievement), and work-life balance to support the people holistic well-being.

6.3 Limitations and future work

The authors acknowledge the limitations of the workshop's small number of participants, even though it included managers from six medium and large manufacturing companies from different sectors in northern and central Europe. These numerical, industry type and geographical restrictions may introduce bias although the abductive methodology, which combines deductive and inductive results, helps to mitigate this concern. Future research will involve a larger and more diverse sample across different generations and regions to validate the six factors and examine generational differences in motivational indicators. Additionally, a 360-degree evaluation of Gen Z's motivations is planned, beginning with leaders' perspectives (as presented in this paper) and expanding to include insights from peers and Gen Z itself.

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