FORUM: MOTIVATION IN SOFTWARE ENGINEERING INDUSTRIAL PRACTICE: A CROSS-CASE ANALYSIS OF TWO SOFTWARE ORGANIZATIONS

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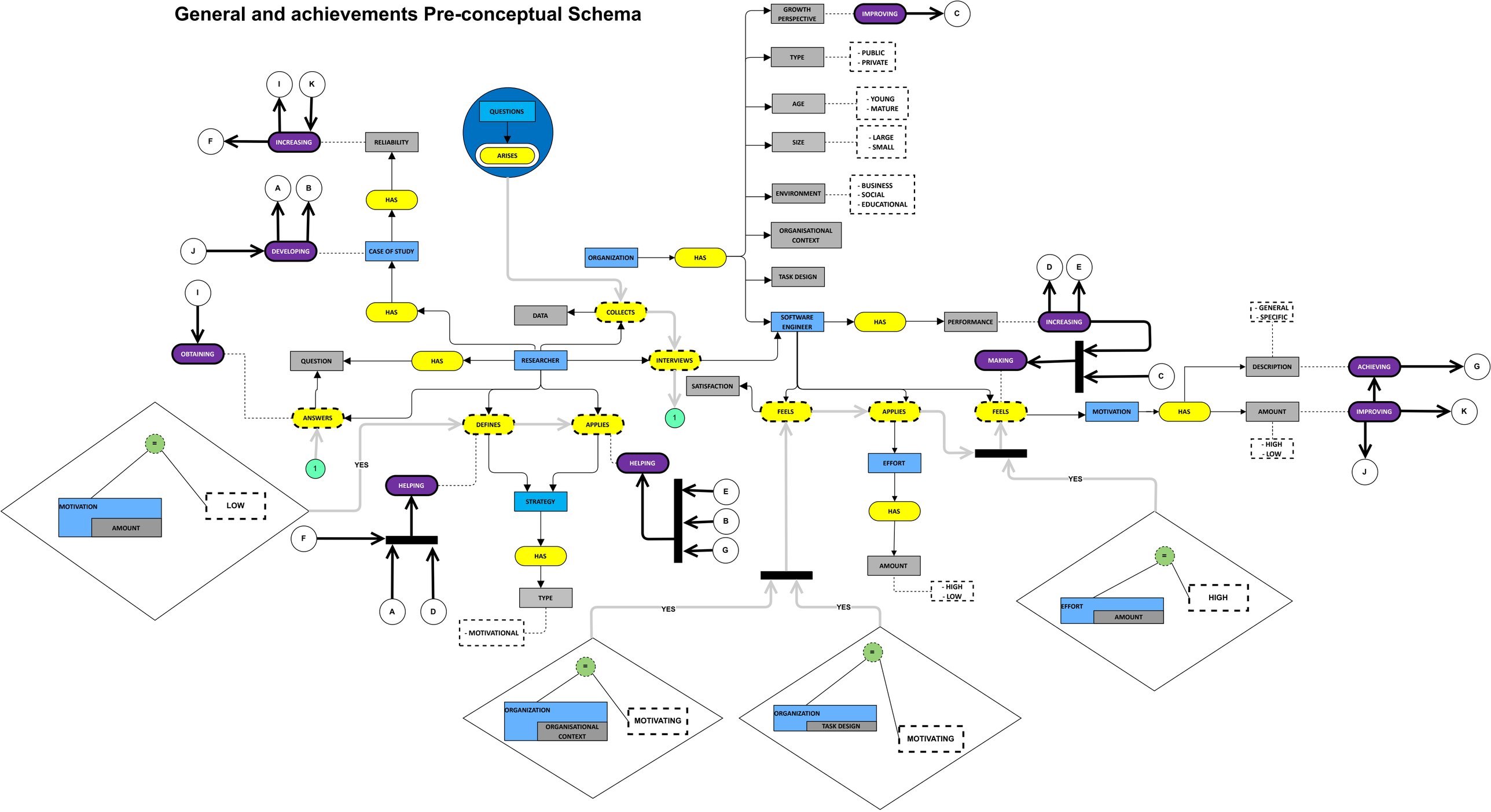
General and achievements Pre-conceptual Schema



General and achievements Pre-conceptual Schema traceability table

Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
when organisational context and the design of the tasks are motivating, individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance and decreases absenteeism, loafing, and turnover	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	- Organization has organisational context - Organization has task design - Organization has software engineer - Software engineer has performance - Effort has amount - Motivation has amount	Structural triad	- We interpret from the context of the article that "individuals" refers to workers, in this case software engineers. - We interpret from the context of the article that the organizational context and task design are of the organization. - We interpret from the context of the article that "willing to apply higher levels of effort to the job" means that the software engineer is motivated
when organisational context and the design of the tasks are motivating, individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance and decreases absenteeism, loafing, and turnover	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	- Software engineer feels satisfaction - Software engineer applies effort - Software engineer feels motivation	Dinamic triad	- We interpret from the context of the article that "individuals" refers to workers, in this case software engineers. - We interpret from the context of the article that "willing to apply higher levels of effort to the job" means that the software engineer is motivated
when organisational context and the design of the tasks are motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2.	If organisational context = motivatig	Conditional	
when organisational context and the design of the tasks are motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2.	If task design = motivating	Conditional	
when organisational context and the design of the tasks are motivating, individuals feel more satisfied	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	If organisational context = motivatig and task design = motivating then, Software engineer feels satisfaction	Implication	
individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2.	AMOUNT: - High - Low	Note	We interpret "higher levels of effort" as the amount of effort, which in this case is high
diversity of factors and contextual conditions that may affect motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 3.	AMOUNT: - High - Low	Note	We interpret from the context of the article that "affect motivation" is related to the amount of motivation that the software engineer can feel, which can be either low or high

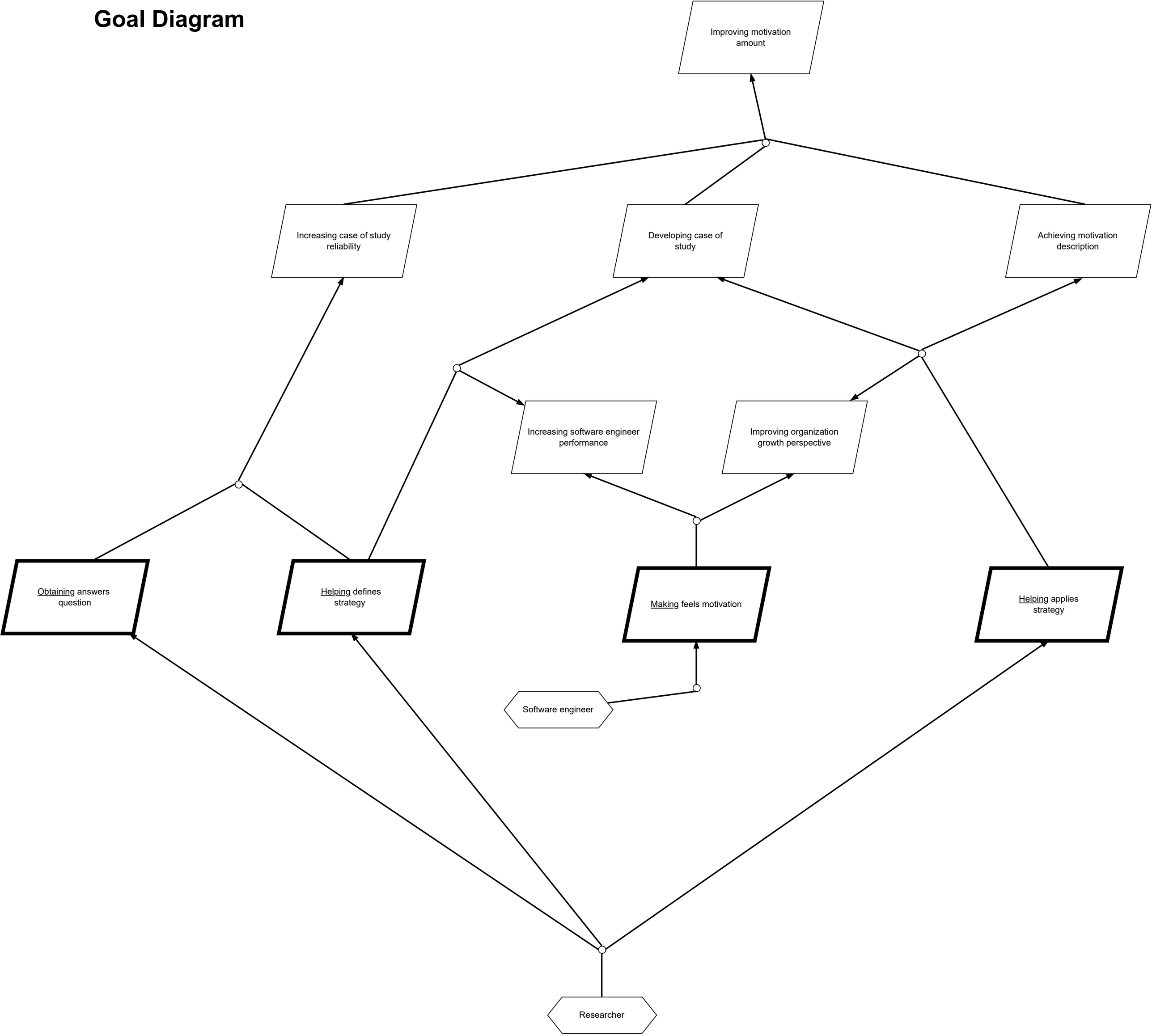
	individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2.	Software engineer feels satisfied, then he applies high amount of effort	Implication	We interpret from the context of the article that "individuals" refers to workers, in this case software engineers.
	a large and mature public organisation and of a small and young private company. Both organisations are located in the city of Recife, in Brazil, and thus share the same business, social, and educational environment.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 6.	- Organization has type - Organization has environment	Structural triad	We interpret "company" as another organization because of the context of the article
	a large and mature public organisation and of a small and young private company. Both organisations are located in the city of Recife, in Brazil, and thus share the same business, social, and educational environment.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 6.	TYPE: - Public - Private ENVIRONMENT: - Bussines - Social - Educational AGE: - Mature - Young SIZE: - Large - Small	Note	We interpret "company" as another organization because of the context of the article
	We interviewed software engineers using an interview guide composed of 43 open-ended questions	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 84, paragraph 6.	- Researcher interviews software engineer	Dinamic triad	We interpret the personal pronoun "we" as if they were the writers of the article, therefore they are the researchers.
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	- Researcher definies strategy - Researcher aplies strategy	Dinamic triad	
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	-Strategy has Type	Structural triad	
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	-TYPE: -Motivational	Note	
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	Researcher defines strategy, then researcher applies strategy	Implication	
	when organisational context and the design of the tasks are motivating, individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	If amount of effort = High	Conditional	We interpret "higher levels of effort" as the amount of effort, which in this case is high
	when organisational context and the design of the tasks are motivating, individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance and decreases absenteeism, loafing, and turnover	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	If software engineer applies effort and the amount of this effort is high, then he feels motivation	Implication	- We interpret from the context of the article that "willing to apply higher levels of effort to the job" means that the software engineer is motivated - We interpret from the context of the article that "individuals" refers to workers, in this case software engineers.

	diversity of factors and contextual conditions that may affect motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 3.	if amount of motivation = Low	Conditional	We interpret from the context of the article that "affect motivation" is related to the amount of motivation that the software engineer can feel, which can be either low or high
	diversity of factors and contextual conditions that may affect motivation. Further, the integrative synthesis of these local theories can contribute to a deeper understanding of motivation in software practice and help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	if amount of motivation = Low then, researcher defines strategy	Implication	We interpret from the context of the article that "affect motivation" is related to the amount of motivation that the software engineer can feel, which can be either low or high
	our goal is to find answers to the following research questions	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 4.	Researcher has question	Structural triad	We intepret from the context of the article that "find answers to the following research questions" means that the researchers have questions
	Collecting data involves selecting data and the most suitable data collection techniques, which will ultimately affect what constitute data for the purposes of the research	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 84, paragraph 3.	Researcher collects data	Dynamic triad	We intepret from the context of the article that the researchers collected data for the research
	our goal is to find answers to the following research questions	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 4.	Questions arises	Event	We intepret from the context of the article that questions make researchers begins the investigation
	interviews are effective at eliciting information about things we cannot observe	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 84, paragraph 7.	Researcher collects data, then researcher interviews software engineer	Implication	We intepret from the context of the article that the researchers are the ones that makes the questions an interview for the software engineers
	we developed case studies on two polar opposite organisations	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 83, paragraph 3.	Researcher has case of study	Structural triad	We intepret from the context of the article that the pronoun "we" refers to the researches who elaborated the article.
	we developed case studies on two polar opposite organisations	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 83, paragraph 3.	Developing case of study	Goal	
	individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	Increasing the performance of the software engineer	Goal	We interpret from the context of the article that "individuals" refers to workers, in this case software engineers.
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	Helping the researcher to define motivational strategies	Requirement	

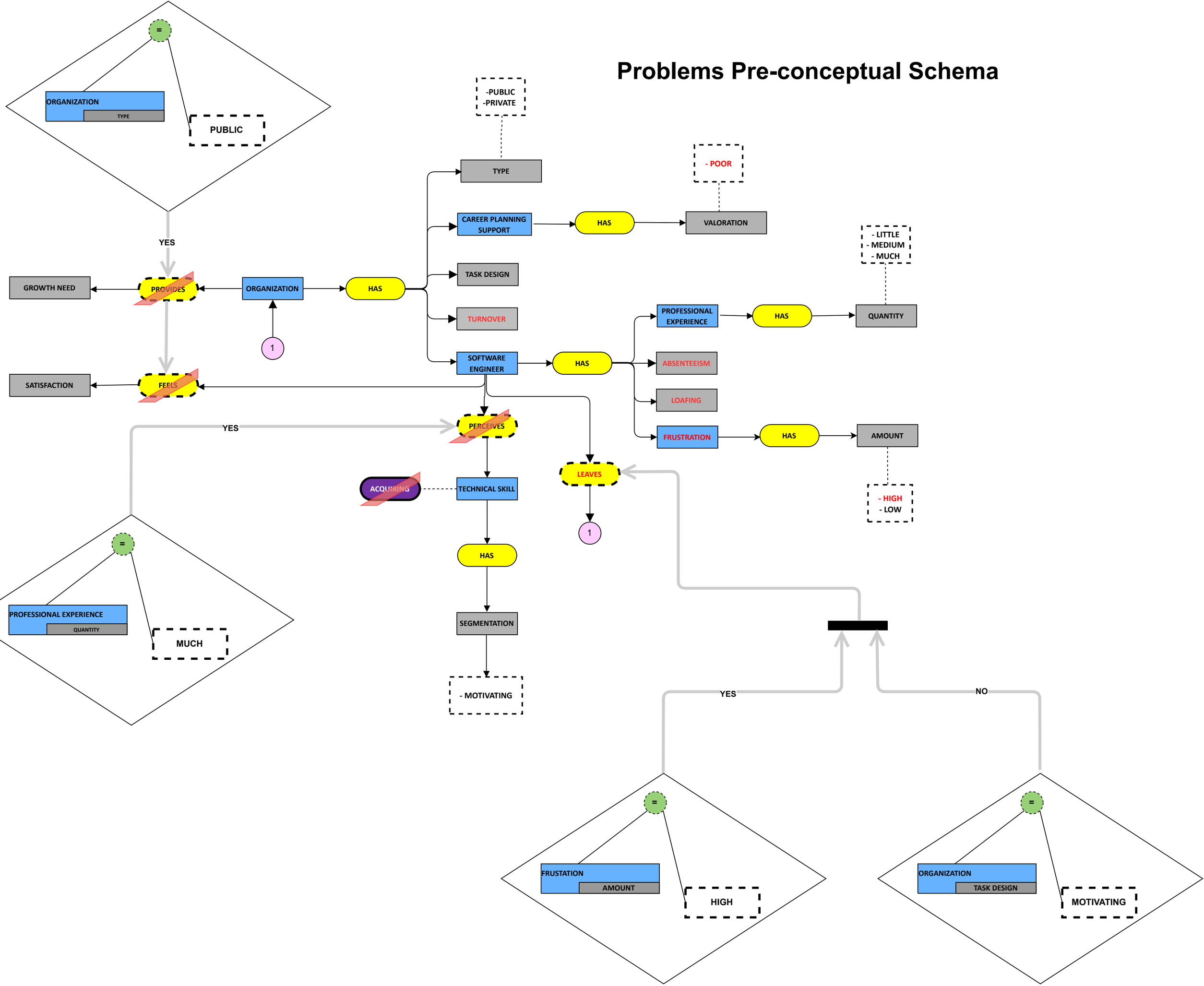
	help practitioners and researchers to define and apply motivational strategies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	Helping the researcher to apply motivational strategies	Requirement	
	help practitioners and researchers to define and apply motivational strategies aiming at increasing commitment and effectiveness of software engineers in software organisations	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 1.	Increasing the performance of the software engineer	Goal	We interpret from the context of the article that "commitment and effectiveness" refers to performance
	We achieved a more general description of the motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 95, paragraph 2.	Motivation has description	Structural triad	
	We achieved a more general description of the motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 95, paragraph 2.	Achieving a general description of motivation	Goal	
	We achieved a more general description of the motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 95, paragraph 2.	-TYPE: -General -Specific	Note	We interpret from the context of the article that the description can be general or specific depending on the goal researchers had at the beginning.
	improve individual motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 96, paragraph 12.	Improving amount of motivation	Goal	We interpret from the context of the article that "individuals" refers to the employees of the organisation, which in this case are the software engineers
	Clear growth perspectives in the organisation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 96, paragraph 12.	Organization has growth perspective	Structural triad	
	Clear growth perspectives in the organisation are central to creating conditions to improve individual motivation	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 96, paragraph 12.	Improving growth perspective	Goal	In section 5.3 of the article, we interpret that all those findings are to improve work environments, motivation and satisafaction
	reliability of the individual studies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 8.	case of study has reliability	Structural triad	We interpret from the context of the article that studies refer to the case of studies that the researchers has in this arcticle
	increases the reliability of the individual studies	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 8.	Increasing case of study reliability	Goal	We interpret from the context of the article that studies refer to the case of studies that the researchers has in this arcticle

	our goal is to find answers to the following research questions:	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 4.	Researcher interviews Software engineer then researcher answer question	Implication	We interpret from the context of the article that researcher answers questions when researcher interviews software engineering
	our goal is to find answers to the following research questions:	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 4.	Obtaining answers to increasing reliability to case of study	Requirement	- We interpret from the context of the article that "find" can be interpreted as obtain answers - We interpret from the context of the article that obtain answers for the questions ca be increase reliability of case study
	our goal is to find answers to the following research questions:	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 4.	Researcher answers questions	Dinamic triad	We interpret from the context of the article that "our goal is to find answers" means that reseracher answers questions

Goal Diagram



Problems Pre-conceptual Schema



Problems Pre-conceptual Schema traceability table

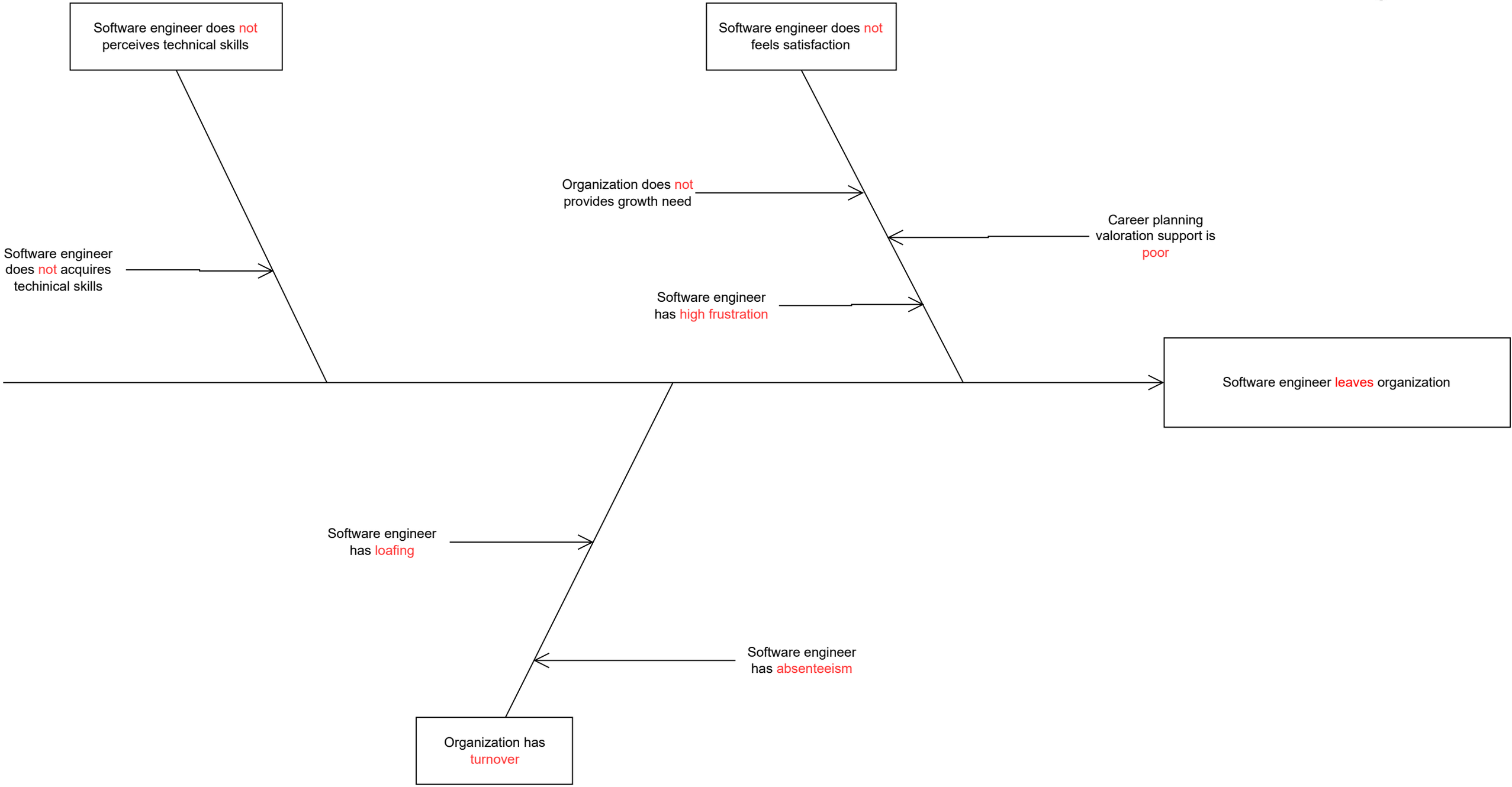
Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
when organisational context and the design of the tasks are motivating, individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance and decreases absenteeism, loafing, and turnover	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	- Organization has software engineer - Software engineer has performance	Structural triad	We interpret from the context of the article that "individuals" refers to workers, in this case software engineers.
individuals feel more satisfied and, thus, more willing to apply higher levels of effort to the job. This, in turn, increases performance and decreases absenteeism, loafing, and turnover	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 79, paragraph 2	- Software engineer has absenteeism - Software engineer has loafing	Problem	We interpret from the context of the article that "individuals" refers to workers, in this case software engineers.
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	- Software engineer has professional experiencie - Professional experiencie has quantity - Technical skills has segmentation	Structural triad	We interpreted that professional experience should have a kind of measure, therefore we decided to call it "quantity" which can be little, medium or much. We decided to segment the technical skill like something motivating
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	Software engineer perceives technical skill	Dynamic triad	We interpreted from the context of the article that software engineer with much professional experience perceives to acquire a technical skill like something pretty demotivating
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	Software engineer do not perceives technical skill	Problem	We interpreted from the context of the article that software engineer with much professional experience perceives to acquire a technical skill like something pretty demotivating
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	Not acquiring technical skill	Problem	We interpreted from the context of the article that the software engineer does not acquire technical skill because he does not perceive the opportunities
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	If quantity = much	Conditional	We interpreted that professional experience should have a kind of measure, therefore we decided to call it "quantity" which can be little, medium or much.
First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	If quantity = much, then software engineer do not perceive to acquiring a technical skill motivating	Implication	We interpreted that professional experience should have a kind of measure, therefore we decided to call it "quantity" which can be little, medium or much. We interpreted from the context of the article that software engineer with much professional experience perceives to acquire a technical skill like something pretty demotivating

	First, engineers in Case 1 had more professional experience and, for this reason, did not perceive the opportunities to acquire more technical skills as motivating.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 94, paragraph 5	- QUANTITY: -Little -Medium -Much - SEGMENTATION: - Motivating	Note	We interpreted that professional experience should have a kind of measure, therefore we decided to call it "quantity" which can be little, medium or much. We interpreted that technical skill might have a segementation which is motivating to acquire
	The single most important outcome of low motivated behaviour was intention to leave in Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- Organization has career planning support - Career planning support has validation	Structural triad	We interpreted from the context of the article that career planning support has validation which can be measure as poor
	The single most important outcome of low motivated behaviour was intention to leave in Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- VALORATION: -Poor	Note	We interpreted from the context of the article that career planning support has validation which can be measure as poor
	The single most important outcome of low motivated behaviour was intention to leave in Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	Organization has a poor career planning support	Problem	
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	Organisation has type	Structural triad	We inferred from the context of the paragraph when it mentions "case 1" in which the author mentions the types of organisations
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- TYPE: -Public -Private	Note	We inferred from the context of the paragraph when it mentions "case 1" in which the author mentions that an organisation could be public or private
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- Organisation provides growth need - Software engineer feels satisfaction	Dynamic triad	We interpreted from the context of the article the organisation can provide the growth need that software engineer has, through the career planning support, therefore a software engineer feels satisfaction doing his work
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- Organisation does not provide growth need	Problem	We interpreted from the context of the article the organisation can provide the growth need that software engineer has, through the career planning support, but in this case the organisation has a poor career planning support for that reason we could inferred that organisation does not provide growth need and software engineer does not feel motivation

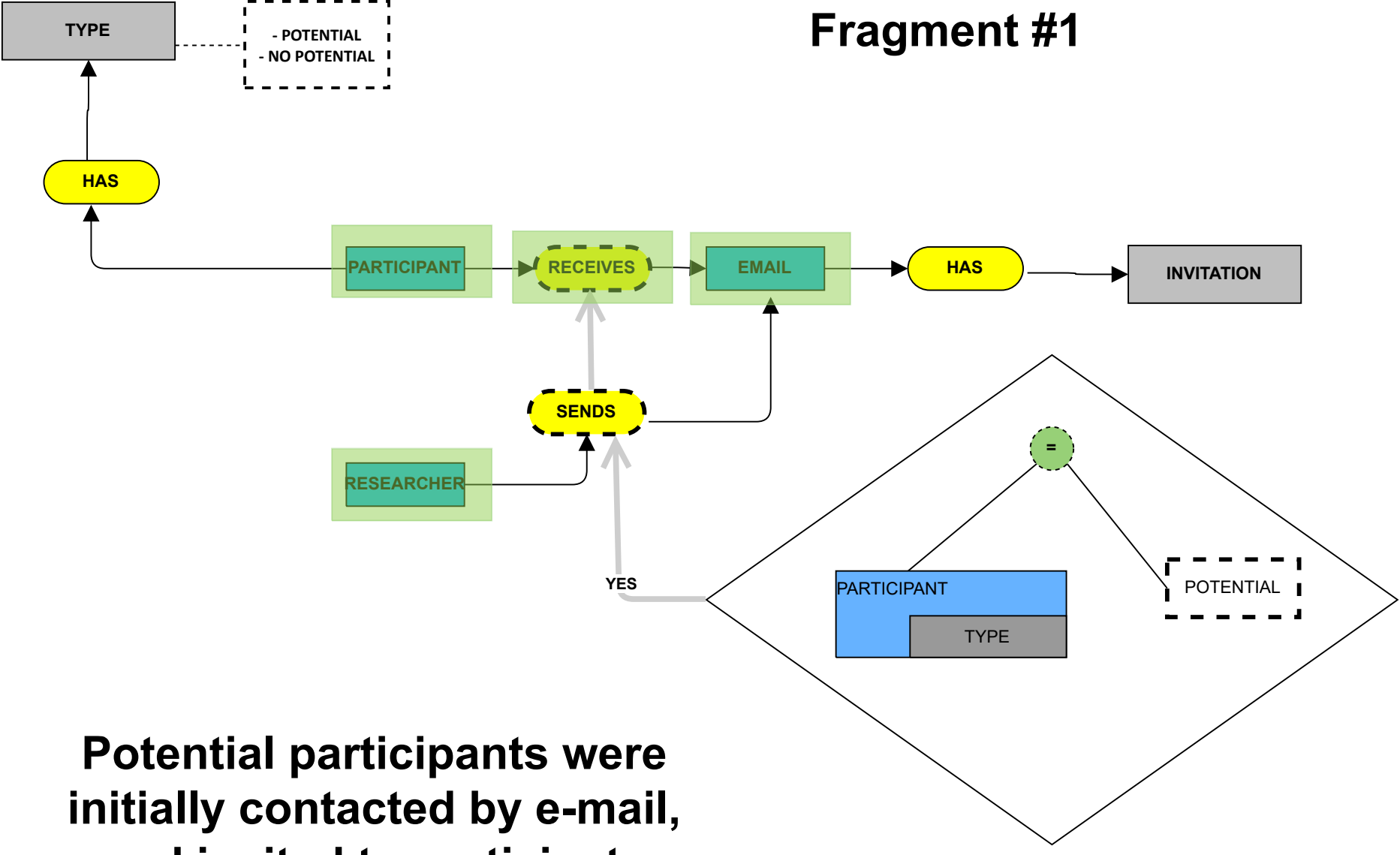
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- Software engineer does not feel satisfaction	Problem	We interpreted from the context of the article the organisation can provide the growth need that software engineer has, through the career planning support, but in this case the organisation has a poor career planning support for that reason we could inferred that organisation does not provide growth need and software engineer does not feel motivation
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If type = public	Conditional	We inferred from the context of the paragraph when it mentions "case 1" in which the author mentions that an organisation could be public or private
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If type = public, then organisation does not provide growth need	Implication	We interpreted from the context of the article the organisation can provide the growth need that software engineer has, through the career planning support, but in this case the organisation has a poor career planning support for that reason we could inferred that organisation does not provide growth need and software engineer does not feel motivation
	In Case 1, which was caused by frustrated growth needs due to poor career planning support in the organisation.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If organisation does not provide growth need, then software engineer does not feel satisfaction	Implication	We interpreted from the context of the article the organisation can provide the growth need that software engineer has, through the career planning support, but in this case the organisation has a poor career planning support for that reason we could inferred that organisation does not provide growth need and software engineer does not feel motivation
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- Organization has task design - Frustration has amount	Structural triad	We inferred that "task design" is similar to "task significance" by the context of the article. We inferred from the context of the article that "individuals" refers to software engineers We interpreted that frustration can be measured using an amount which could be high or low.
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	Software engineer leaves organization	Problem	We interpreted from the context of the article that organization refers to company in the fragment
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If frustation.amount = high	Conditional	We interpreted that frustration can be measured using an amount which could be high or low.

	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If organization.taskdesign = not motivating	Conditional	We inferred that "task design" is similar to "task significance" by the context of the article. We inferred from the fragment when the frustration is higher than motivation of task design means the task design does not motivating.
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	If frustation.amount = high and organization.taskdesign = not motivating, then software engineer leaves the organization	Implication	We inferred that "task design" is similar to "task significance" by the context of the article. We inferred from the fragment when the frustration is higher than motivation of task design means the task design does not motivating.
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	- AMOUNT: -High -Low	Note	We interpreted that frustration can be measured using an amount which could be high or low.
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	Software engineer has frustration	Problem	We inferred from the context of the article that "individuals" refers to software engineers
	Individuals tended to leave the company when this frustration was higher than the motivating power of task significance	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 89, paragraph 6	The amount of frustration is high	Problem	We interpreted that frustration can be measured using an amount which could be high or low.

Cause-and-effect Diagram



Fragment #1



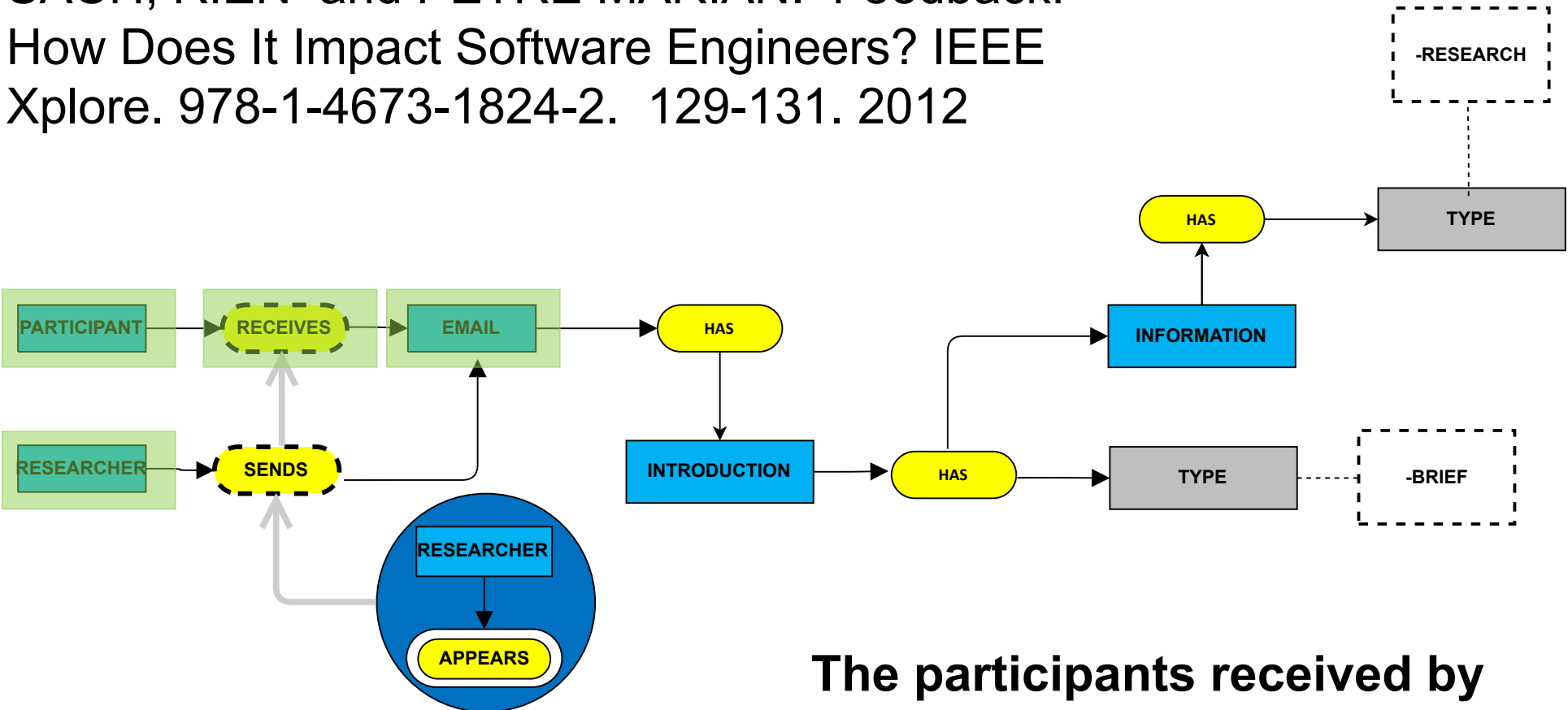
Potential participants were initially contacted by e-mail, and invited to participate

Fragment #1 Pre-conceptual Schema traceability table

Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	- Participant has type - Email has invitation	Structural triad	We modelated the word "potencial" as a type of participant, because we inferred from the text that e can segment the participants as potencial or no
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	- Participant receives email - Researcher sends email	Dynamic triad	We inferred from the context of the fragment that the researcher was who sends the email
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	If participant.type = potencial	Conditional	We modelated the word "potencial" as a type of participant, because we inferred from the text that e can segment the participants as potencial or no
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	If participant.type = potencial, then researcher sends email	Implication	We modelated the word "potencial" as a type of participant, because we inferred from the text that e can segment the participants as potencial or no. We inferred from the context of the fragment that researcher was who sends the email
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	If researcher sends	Implication	We inferred from the context of the fragment that the researcher was who sends the email
Potential participants were initially contacted by e-mail, and invited to participate.	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 85, paragraph 6.	- TYPE: -Potencial -No potencial	Note	We interpreted that participant could be segment as potencial or no potencial type

Reference #1

SACH, RIEN and PETRE MARIAN. Feedback: How Does It Impact Software Engineers? IEEE Xplore. 978-1-4673-1824-2. 129-131. 2012

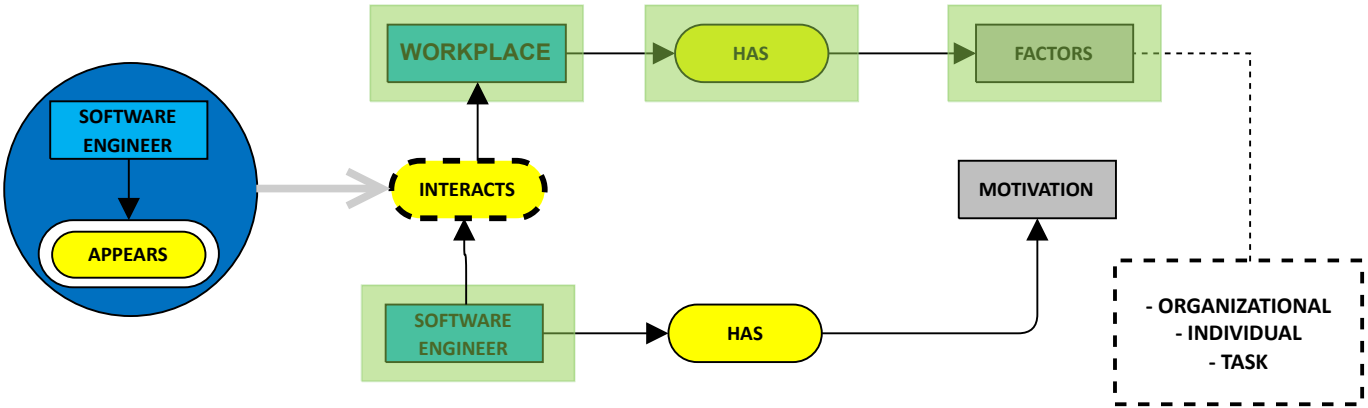


The participants received by email a brief introduction to this research and information

Document #1 Pre-conceptual Schema traceability table

Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	- Participant receives email - Research sends email	Dinamic triad	We infer from the text that the "researchers" were the ones sending the e-mail to the participants.
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	- Email has introduction - Introduction has type - Introduction has Information - Information has Type	Dinamic triad	
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	-TYPE: RESEARCH -TYPE: BREIF	Note	We infer from the text that the "researchers" were the ones sending the e-mail to the participants.
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	We infer that for the researcher to send an email, it must appear	Event	We infer from the text that the "researchers" were the ones sending the e-mail to the participants.
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	Researcher appers, then researcher send emails	Implication	We infer from the text that the "researchers" were the ones sending the e-mail to the participants.
The participants received by email a brief introduction to this research and information	Text	Feedback: How Does It Impact Software Engineers? page 130 paragraph 6	Researcher sends email, then participat recibes email	Implication	We infer from the text that the "researchers" were the ones sending the e-mail to the participants.

Fragment #2



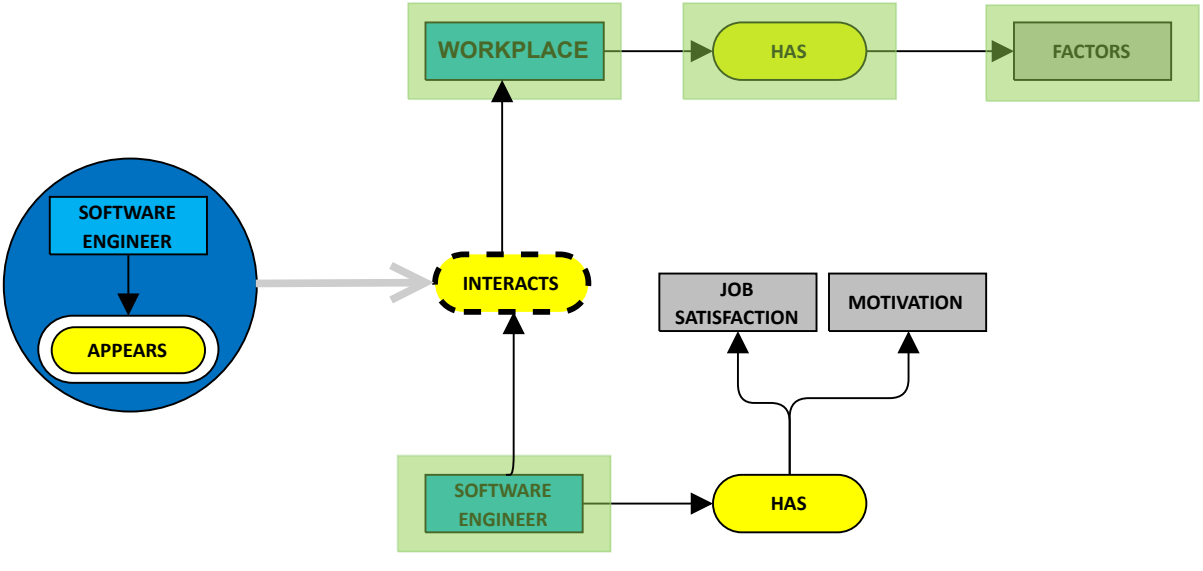
organisational, individual, and task related factors affect the motivation of software engineers in the workplace

Fragment #2 Pre-conceptual Schema traceability table

Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
organisational, individual, and task related factors affect the motivation of software engineers in the workplace	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 5.	- Workplace has factors - Software engennier has motivation	Structural triad	
organisational, individual, and task related factors affect the motivation of software engineers in the workplace	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 5.	- Software engennier interacts with workplace	Dinamic triad	We infer from the text that "motivation of software engineers in the workplace" means that software engineer interacts with them
organisational, individual, and task related factors affect the motivation of software engineers in the workplace	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 5.	-FACTORS: INDIVIDUAL SKILLS	Note	
organisational, individual, and task related factors affect the motivation of software engineers in the workplace	Text	Motivation in software engineering industrial practice: A cross-case analysis of two software organisations, page 80, paragraph 5.	Software engineer appears	Event	We infer from the text that for the software engineer to interact with the workplace should appear

Reference #2

França, César. da Silva, Fabio. Sharp, Helen. Motivation and Satisfaction of Software Engineers. IEEE TRANSACTIONS ON SOFTWARE ENGINEERING. 46. 2. 118-140. 2020



workplace factors influence the work motivation and job satisfaction of software engineers

Document #2 Pre-conceptual Schema traceability table

Original sound/Image/Text	Source	Location	Element	Kind of element	Observations
workplace factors influence the work motivation and job satisfaction of software engineers	Text	Motivation and Satisfaction of Software Engineers page 123, paragraph 2.	- Organizational has factors - Software engineers has motivation - Software engineers has job satisfaction	Structural triad	- We infer from the text that "workplace factors" means that the workplace have factors - We infer from the text that "work motivation" ca be interpreted as the motivation of software engineer
workplace factors influence the work motivation and job satisfaction of software engineers	Text	Motivation and Satisfaction of Software Engineers page 123, paragraph 2.	- Software engineer interacts workplace	Dynamic triad	We infer from the text that "wokplaces factor influence work motivation" means that software engineer interacts with them
workplace factors influence the work motivation and job satisfaction of software engineers	Text	Motivation and Satisfaction of Software Engineers page 123, paragraph 2.	Software engineer appears	Event	We infer from the text that for the software engineer to interact with the workplace should appear