

Businesses Computing Educational Brand Identity: Adaptation of the KJ Method within a Stakeholders Collaborative Systems Approach

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Abstract. This research aims to develop an incipient systemic approach constructed from the syntegegration of stakeholder analysis (SA), stakeholder collaboration (SC) using the KJ method, and marketing projections to curate a viable brand identity for business computing educational departments that would be reflected through changes to the curricula. A case study is used to test the tentative approach using the holistic concepts of systems thinking. Results from the consolidation indicate an initial and developing approach that potentially sustains a brand identity of business computing departments in a systemic manner that reflects its marketplace. This study has both practical and theoretical implications. In practice, an approach is developed to curate the brand identity, and theoretical wise the study suggests the potential theorization of the effect of syntegegration of SC, team facilitation and marketing projection on curating an educational brand identity. The study fills the research gap concerning the necessity of curating brand identity for computing programs within business schools.

Keywords: Educational Brand Identity, Business Computing Programs, Systems Thinking, Stakeholder Collaboration, Group Facilitation.

1. Introduction

The viability of the distinct brand identity of a computer science or information technology department within a business school in an institution of higher education is essential for its distinguishment. However, department faculty face numerous challenges in differentiating their departments and programs from other colleges, which is especially difficult given that the program curricula for these institutions must reflect rapid changes in technology trends and demands (Hong et al., 2022). Additionally, brand identity is a multidimensional, socially dynamic construct affected by time and space (Hong et al., 2022), which makes achieving consensus among stakeholders involved in defining a brand especially difficult.

Brand identity in marketing is highly sought after. Research indicates that companies soar when they can make themselves stand out; they are in higher demand than competitors if their messaging reflects the choices and interests of clients (Selase et al., 2018; Ianenko et al., 2020). This can also be the case in academic branding, as such self-identification can separate an institute or department from its peers. Sustaining a brand identity model requires analyzing the culture, patterns, and demands of a marketplace (Ianenko et al., 2020). Moreover, the curation of a brand by an academic department should reflect the perspectives of stakeholder interests (Suhardi et al., 2022). This requires alignment with the parent institution's mission and vision, which in turn is aligned with the national vision following identity model (Wolf, 2017).

Brand identity literature lacks an examination of the viable aspect of the models (Koski & Juntunen, 2020; Ejime, 2022). Specifically, academic literature regarding computer science and information technology lacks a sufficient undertaking regarding brand identity. Furthermore, it lacks systemic work that addresses the ability of a business computing department to maintain a viable brand identity within the rapidly changing world of technology. The curriculum committee must be appropriately resilient and adopt a holistic perspective that encapsulates stakeholder perspectives in a self-regulatory manner that maintains viability. Preserving the identity of a brand in a mixed environment of business and computing is challenging, especially when the institution follows an applied approach in education that requires hands-on individual and team-based experiences that reflect the current marketplace.

The American Computing Machinery (ACM) ventured into classification topics under different curriculum umbrellas including Information System (IS), Computer Science (CS), Computer Engineering, Management Information Systems and Information Technology (IT). The ACM also contemplated other classifications and showed that over time, topics and computing classifications dynamically change, are regrouped and renamed while other new topics emerge, which is evident in their revised versions of tentative curricula and the development of new tracks. Such classifications aid computing departments in identifying distinct streams, however, when topics are taught using an applied methodology, the act of identifying an educational brand identity might be a better option than distinct classification to cope with stakeholders' perspectives in a changing environment. In today's marketplace, delving into other classifications is formidable and unprecedented territory for academic business computing literature as curriculum committees need to become flexible and dynamic to balance business and computing aspects for the program to be unique, in hope of sustaining the program identity.

Furthermore, business computing department faculty come from a diverse array of educational backgrounds, with curriculum committee members coming from various backgrounds from year to year. This means that opinions regarding program goals and strategic objectives may shift from one academic year to the next. As such, these committees need to rationally integrate their perspectives with other stakeholders involved in the curriculum process to produce a unique, desirable educational brand in the IT marketplace. This demands a systemic approach to self-regulate and sustain the goals and strategic objectives. Furthermore, curriculum committee members should be resilient to cope with the rapid dynamic changes in IT as recommended by project team literature (Cheng et al., 2023).

Marketing strategies could be used by the academic sector to curate a brand identity; however, it is essential for curriculum committee members to employ them within a systemic process. Stakeholder analysis (SA) is vital during the identity development process and emphasized by the literature to be a complex and dynamic process (Scott, S.G. & Lane, V.R., 2000). Stakeholder collaboration (SC) within focus groups is challenging and is more complicated when they are unfamiliar with each other.

Literature elucidates that SA and SC are crucial to reach common perspective among groups and stakeholders to curate a business computing brand identity within an educational environment. Since SC necessitates interpersonal interaction among representatives, the risk of bias and underrepresentation in focus group meetings always exists. This paper uses the holistic approach of systems thinking and team facilitation in a case study to theorize that the syntegegration of diverse stakeholder perspectives collaboratively promotes the curation of a distinct and viable brand identity that reflects its marketplace environment and would be reflected through changes to the curricula. Moreover, this paper considers the brand identity curation process as a system itself with diverse stakeholders with different interests and agendas involved in complex relations who need to reach a common identity. Therefore, to manage the complexity of the problem under consideration, this paper aims to employ SA and SC joined with marketing projection prediction tools to encapsulate a business computing brand identity from the IT marketplace. Stakeholder representatives that are resilient and self-regulating collaborate with one another and reach a consensus in their meetings (Kantabutra & Ketrapakorn, 2022).

The literature regarding educational brand identity is scarce even before it is further distilled to focus on the identity of CS or IT departments in applied tertiary business schools. Through SA (Freeman, 1984) and SC (Savage et al., 2010) and exploring the effect of the KJ method in reaching consensus on statements in focus group meetings, this document aims to answer the following research question: “Can SC using systems thinking and team facilitation tools help reach consensus among strangers in groups, and accordingly guide the group to forming a distinct viable educational brand identity for computing departments that would be reflected through changes to the curricula?” Therefore, this study contributes to systems and information systems literature by emphasizing the dominant role of SC in reaching consensus among stakeholders within systems with the aid of adequate facilitation tools. The study also suggests that SA, SC, and marketing projection factors are crucial to curate an educational brand identity. In addition, a holistic approach of systems thinking, group facilitation, and marketing is adapted to theorize that the effective syntegegration of diverse stakeholder perspectives (Elias & Cavana, 2000) promotes a distinct and viable brand identity that reflects its marketplace environment.

This manuscript is arranged as follows: The second part of the paper starts with a literature review that supports the proposed research model and hypotheses. Then, the research methodology and design and data collection processes are presented in the third section. The fourth section presents the data analysis, results and discussion. The manuscript draws a conclusion by emphasizing the significance of identifying an educational brand identity for an ever-evolving IT environment, and its implications.

2. Literature Review

2.1. Identity

According to the Merriam-Webster dictionary, the origin of the term “identity” goes back to the late 16th century and comes from the Latin term *idem*, which means “same.” Identity as a concept answers the question of “who am I?” from the field of sociology, and, according to Burke and Stet (2009), infers that identity and environment reflect one another and could not be defined separately. Burke and Stet (2009) also hypothesize, after a series of rigorous testing, that a correlation exists between social psychology and marketing. In 1985, identity was articulated on an organizational level and answers the question “who are we as an organization?”

Individual identity looks for distinct attributes that construct the human. Similarly, an organizational identity looks for distinct attributes that construct the organization (Albert, 1998).

Identity is linked with the intention of acquiring a product (Yoon & Joung, 2021). In addition, to encapsulate an identity it is essential to acknowledge it as a concept, construct, or thing that is inferred by other relations (Cabrera et al., 2022); in an organization, mission and vision are important things that shape an identity.

This study considers an educational institution as an organization, and identity is discussed from that perspective. Since identity cannot be reflected away from its environment, contextual circumstances are vital and will infer identity encapsulation. Historically, the term identity is recognized within the academic context (Fotovatian, 2012; Brewer, 2016; Gardner & Willey, 2016; Drennan et al., 2017; Flecknoe et al., 2017; Grzeszczuk, 2018; Tran & Minh, 2022), where some scholars have sometimes referred to it as “institutional identity,” “academic identity,” or “professional identity.” Suhardi et al. (2022) went further in the identification of a brand audit model and a salience brand management model for a university statistics program. This study focuses on encapsulating an academic department brand identity that will, in turn, accurately reflect its programs.

Scholars have recognized and emphasized the vital role of identity in its relation to marketing (Wang & Udall, 2023). Finding a unique educational identity is desirable for marketplace acquisition. The construction of a distinct mission and vision will lead to a distinct identity that makes it an often-thought-of brand (Drennan et al., 2017; Matipira et al., 2019; Weissenberger-Eibl et al., 2019). Distinction is significant among scholars of many sciences, whether they are natural, physical or social, as a synonym for identity, which is represented through concepts, constructs or things (Cabrera et al., 2022). Identity cannot be discussed in the absolute; it needs to be considered within relation to a boundary. This realization is well established in the literature of systems and systems thinking, where boundary judgment determines the system under focus formation, its relationships, and perspectives (Cabrera et al., 2022).

2.2. IT Rapid Change in the Marketplace

Business is changing rapidly in today’s marketplace (AlBuainain et al., 2018), and the proficiency of the workforce is an outcome of education (Moses, 2016). In 1998, Benamati and Lederer also emphasized the “rapid change in information technology” and the need to cope with such change, because it raises uncertainty of how and what information technology IT changes are happening in IS. This uncertainty is making matters complex (Arnold & Wade, 2015), and uncertainty is also noted in IS trends and patterns (Durney & Donnelly 2015; Armenia & Loia, 2022). The rapid change in IT and the associated uncertainty is a highly concerning, complex issue (Mishra et al., 2023).

Headhunters for both the private and public sectors seek graduates who are versatile and can cope with changes in technology. They also need graduates who are self-learners and require minimum training. The graduates of CS and IT programs in business schools need to be empowered with analytical skills that enable them to meet the demands of a changing marketplace. The reality of the dynamic nature of computing itself requires related academic programs to be in a continuous cycle of review. Also, the tertiary education environment is dynamic by nature; positions and roles change, institutions' plans change as well inferred by its environments, and this creates a complex problem to tackle.

The world is complex and changing, and future changes will make it more challenging to comprehend and analyze it. This requires a holistic approach that attenuates the factors that affect it and emphasize what really matters to better understand it. Anything in this world can be viewed as a system, whether it is a thing, a process, a person, a department, etc., and systems thinking can be used to analyze it. Systems thinking provides a means to deal with complexity in an acceptable manner (Arnold & Wade, 2015; Armenia & Loia, 2022; Ramírez-Montoya et al., 2022).

2.3. Systems and Systems Thinking

A system is defined by Kauffman (1980) as “a collection of parts which interact with each other to

function as a whole.” It considers any matter or thing as a system with interconnected relations within a boundary. Systems thinking is a paradigm from the work of Churchman and Ackof that views interconnected parts within a specific context as a system and treats them as a system (Whitchurch & Gordon, 2010). It also provides an interpretive means to analyze and better understand systems (Armenia & Loia, 2022), as well as the means to handle complexity in many disciplines (Arnold and Wade, 2015).

The concepts of systems thinking originated from interdisciplinary sciences to uncover and find better solutions for problems in complex environments that are overseen by traditional ways of analysis. Their holistic nature enables practitioners to better understand problems within their context and thus find better solutions. Systems thinking represents a paradigm shift (Voulvoulis et al., 2022) that changes basic assumptions and offers a way of perceiving, understanding, and learning by observing from above to comprehend the greater picture. It opens possibilities through incisions of possible outer influences that involve interconnections and circular dependencies. It is widely used in strategic management, software requirements engineering, curriculum design, education, and many other fields. Furthermore, business schools are embedding this concept into their programs to instill values (Gregory & Miller, 2014).

Cabrera et al. (2022) present literature that emphasizes the appropriateness of using systems thinking in relation to identity studies that involve relationships, opinions and perspectives. The identity, mission, and vision of computing programs in business schools is a complex matter because various factors affect them and are affected upon them. Opposing opinions, insufficient data, and lack of communication are some of the negative feedback comments from stakeholders. In 2016, Brewer identified potential stakeholders within a higher education environment according to the most mentions by empirical data collection, from highest to lowest, as follows: students, faculty, community members, staff, and others. Kujala et al. (2022) give an overview of stakeholders in the past and present. Systems thinking helps in reaching a shared vision among various stakeholders (Barile & Saviano, 2021), which supports the aim of this study in reaching a common brand identity. In this study system thinking concepts are used among a collaborative approach of marketplace meetings in hope of encapsulating from the participant stakeholders a shared understanding of identity from projected IT job demands.

2.4. Stakeholder Analysis and Collaboration

Stakeholders, as defined by Freemans (1984), are “any group or individual who can affect or is affected by the achievement of the organization's objectives” (p. 46). Freeman develops a stakeholder management framework that is context specific and addresses the concerns of managers in a changing environment. Stakeholder analysis is one of the primary actions that are performed by system practitioners to make sense of complex problems, and in literature, it is associated with planning, system thinking, and social and organizational theory (Freeman & Mcvea, 2001) as it revolutionized incorporation of stakeholder perspectives to better understand complex problems. The literature also associates SA with other processes to promote knowledge elicitation among participants with varying interests and stakes (Quimby & Beresford, 2023). The forthright participation of stakeholders during group meetings ensures the usefulness of elicited knowledge (Brugha & Varvasovszky, 2000). It is crucial to reach consensus among participant representatives regarding shared information.

Savage et al. (2010) explain that SC involves a social partnership among interorganizational representatives to solve what are called “messy problems,” and further present that SC has been explored by a plethora of scholars as a means to achieve competitiveness and advancement, pool resources, and achieve things that are unachievable by other means, which leads to an adaptive advantage.

Both SA and SC are used in studies of higher education (Chapleo & Simms, 2010; Nasrulhaq et al., 2020) to accommodate the complexities of involving multiple perspectives in knowledge formation. Higher education programs, and specifically computing programs, reside in a rapidly changing

environment, and this requires what scholars such as Cheng et al. (2023) call team resilience capability. There is a need to retain resilience capability in IS development teams within a changing environment. Scholars also point out that participants flourish in teams that work under pressure if they have strong psychological power (Alliger et al., 2015), and this positive bonding is achieved when participants work collaboratively. Collectively, SC is achieved by enforcing structure (Nasrulhaq et al., 2020) and the KJ method is an appropriate tool that could be used to ensure that structure.

Kawakita Jiro invented the KJ Method, also known as the "Affinity Diagram" (Ulrich, 2003), as a focus group and team facilitation method that is useful for developing conceptual frameworks. The KJ method was originally developed for anthropological fieldwork; it organizes chaotic information in an orderly system. It encapsulates relations between gathered and stored data, which leads to findings in a systemized, brainstorming way. The features of the KJ method emphasize that cooperation works toward innovation (Yuizono et al., 1998), which makes it distinct in that decisions are made based on group agreement rather than on personal preferences.

The goal of this study is to use the KJ method within a process of systems thinking concepts to encapsulate IT marketplace projections to shape an educational brand identity for a business computing department. The results of the study will pool into projections mix to form an educational identity that would be reflected through changes to the curricula. The adaptation of the KJ method is a process to develop the brand identity of a computing department of a business school.

3. Methodology

Case study data from marketplace focus group meetings within a computing department in a business applied college is used to update the curricula of business computing programs, as well as to develop innovative programs that serve the future trends of local market job demands. The case study design incorporated the integration of systems thinking and team facilitation concepts for evaluation and analysis in the hope of potentially developing a brand identity of business computing programs in a systemic manner. The KJ method was chosen as a team facilitation tool (Scupin, 1997) and administered within systems thinking processes. The KJ method is distinct in relying on the decisions from a group agreement over personal preference; this supports the holistic approach of systems thinking which handles the complexity of diverse factors involved in the process of curating a brand identity.

Figure 1 presents a tentative research approach that makes use of systems thinking concepts to evaluate and analyze problems. It is composed of systems constructs, collaboration constructs, and identity constructs. As an initial part of a systems paradigm, systems constructs focus on the necessity of being able to define the boundaries of the system under consideration in terms of elements identification of stakeholders involved using systems thinking and SA. The second component, collaboration constructs, focuses on being able to collaborate in group knowledge-sharing sessions through marketing tools and get optimum IT job projections. The third component, identity constructs, focuses on being able to reach consensus of a brand identity through stakeholder collaboration and

revisions based on market projections.



Fig. 1: The Tentative Systems Approach of Branding Identity using Stakeholders (SABIS).

The complexity of encapsulating qualitative data from IS is addressed by using a systems thinking paradigm where data collection at certain points cannot be separated from analysis; this includes future projections of business computing jobs, roles, skills, abilities, and values in the hope of forming an educational brand identity. This study focuses on the holistic approach that encapsulates future projections of technology jobs in the marketplace. It utilizes marketing in identity creation as reflected in literature (Ejime, 2022), and thus shapes a department’s identity.

The tentative systems approach of branding identity using stakeholders (SABIS) in this research adapts the KJ method by integrating SA and SC. It uses a case study of a computing department in a tertiary applied business school in Kuwait. In a preliminary phase, faculty members working on accreditation and curriculum development used online documentation in compliance with the “New Kuwait 2035 vision,” the college identity, national and international accreditation rules in the creation of the department mission and vision, meetings, and attendance of seminars to gather information to shape the mission and vision of the department. A series of sessions that included brainstorming followed by thematic reasoning and analysis of data where visual aids of wall posters were used to conceptualize and curate an initial tentative mission and vision of the department. A questionnaire was administered to stakeholders for use in marketplace meetings, in the hopes of raising awareness and giving the participants an idea of what will be discussed in the meetings. Focus groups were administered in person, and to ensure collaboration the KJ method (Yuizono et al., 1998) was used, which had data analysis embedded within its administration process. Table 1 shows detailed administration of the tentative SABIS process.

Table 1: SABIS- Systems Approach of Branding Identity using Stakeholders.

Construct	Phase Ability	Step Name	Step Description	Stakeholders
Systems Constructs	Boundaries & Stakeholders (Cabrera, Cabrera & Cabrera, 2022)	Problem Scope	System Thinking & Stakeholder Analysis: 1. define system boundaries 2. identify stakeholders (participants) 3. participant awareness by questionnaire	Faculty 1. curriculum 2. accreditation

Collaboration Constructs	Collaboration & Knowledge Sharing (Elias & Cavana, 2000, Kantabutra & Ketprapakorn, 2022)	Problem Initiation	System Thinking + KJ method: 1. meetings goal 2. KJ method rules 3. motivation quotes jobs & roles skills tasks comments/suggestions mission vision	Facilitator
Collaboration Constructs	Collaboration & Knowledge Sharing (Brugha & Varvasovszky, 2000),	Negotiation	Adapted KJ method: 1. blend systems thinking 2. holistic perspective	Facilitator Marketplace Faculty
Collaboration Constructs	Collaboration & Knowledge Sharing (Brugha & Varvasovszky, 2000),	Analysis	Mapping & Alignment 1. visual presentations to map stakeholders with skills and projected technology adaptation to CSIS mission and vision	Facilitator Marketplace Faculty
Identity Constructs	Consensus & Identity Branding (Brugha & Varvasovszky, 2000)	Stakeholder Consensus	Identity of CSIS is agreed upon after mappings and alignments of perspectives	Facilitator Marketplace Faculty
Identity Constructs	Consensus & Identity Branding (Brugha & Varvasovszky, 2000)	Repetition of steps as needed	System Thinking: 1. multiple meetings 2. diverse stakeholders 3. holistic perspective	Facilitator Marketplace Faculty

4. Discussions

Over the course of two days, 19 stakeholders working in IS in business environments, seven faculty members, and an external facilitator met in person and utilized SABIS with the goal of encapsulating the requirements of the IT marketplace. Knowledge transferred and shared by the stakeholders was summarized to identify current and future projections of required jobs. The participants were broken down into two groups of representatives from the private, small and medium enterprise, and government sectors to address the current market's shortage of IT employment, skills, and specialized responsibilities.

Although the first group (which consisted of eight individuals) was briefed by the facilitator on the procedure, they nonetheless began discussion before the allocated time, and thus failed to follow the rules of the KJ method, which begins brainstorming through writing. This was due to the culture that existed among the stakeholders, who preferred talking over writing. The facilitator was stricter in enforcing this rule in the second group, which prevented talking; the participants focused on writing their own thoughts.

Participants were asked to write down their perspectives on sticky notes without talking and then given the chance to discuss their opinions in the group, concentrating on the following questions:

Q1-Q2: What are the ROLES of computer-related JOBS your organization mostly lacks now from national graduates with a two-year diploma?

Q3: What are the SKILLS of computer-related jobs your organization mostly lacks now from national graduates with a two-year diploma?

Q4: What are the TASKS of computer-related jobs your organization mostly lacks now from national graduates with a 2-year diploma?

Q5: Please write down any comments/suggestions you have that were not covered by our discussions.

After that, the institution’s mission and vision statements were updated by the participants by selecting the three most favorable points from the vision list. The perspectives were intended to better align the existing mission with the current and future requirements of the marketplace. Finally, participants comments and suggestions were collected.

The adaptation by SABIS of the KJ method using systems concepts provided an effective approach for stakeholders to work in a collaborative manner. This method has the potential to increase stakeholder engagement by providing a platform for collective decision-making and shared ownership of summarized information leading to an educational brand identity. By leveraging the collective intelligence of stakeholders, participants in the marketplace meetings can curate a more viable brand identity that is tailored to the unique needs of their stakeholders. Through the implementation of the KJ method, educational institutions can be confident that the brand identity is tailored to the needs of the stakeholders while ensuring that it is still consistent with the overall brand identity of the institution. Data collection and analysis of the adapted KJ method of SABIS draws the patterns shown in Figure 2.



Fig. 2: Grouping of Questions and Participants Responses.

4.1. Jobs and Roles (Q1 &Q2)

Four classifications of jobs and roles have been reached, and under each classification there is a group of categories that a graduate of a diploma in the computing department can work with which are: Software Development Figure 3, Information Systems Figure 4, Infrastructure-related Figure 5 and Security Figure 6.

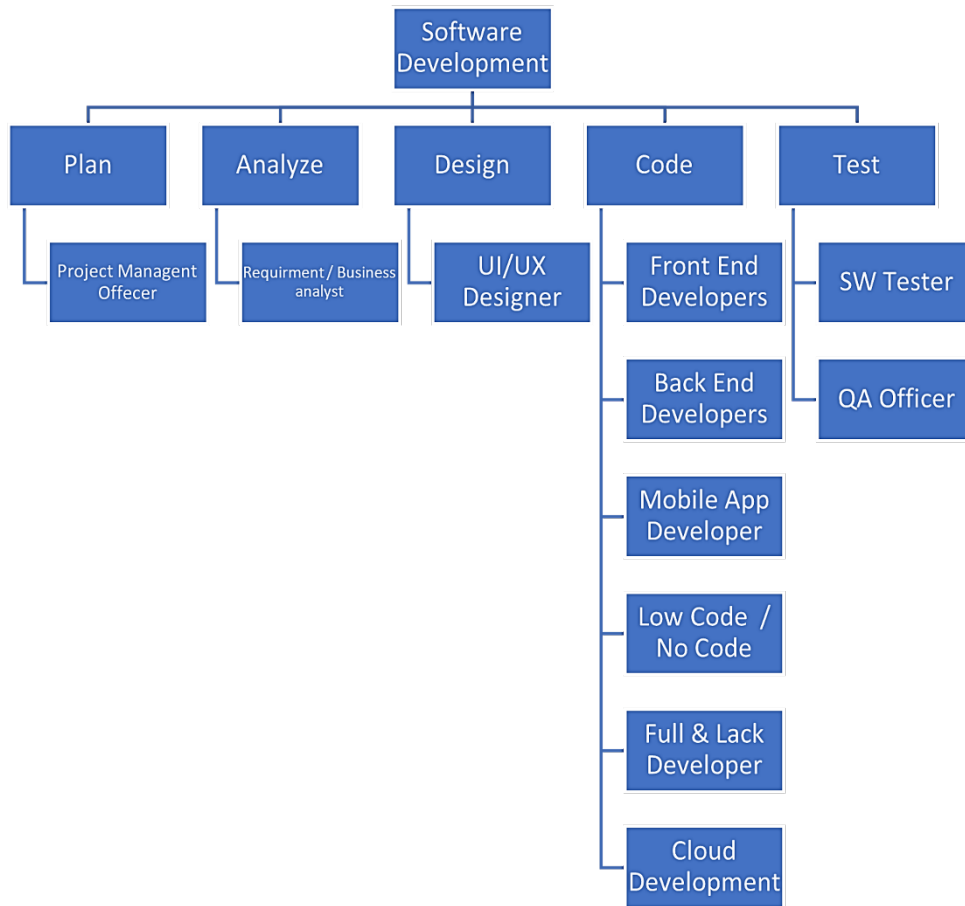


Fig. 3: Facilitator Patterning of Jobs and Roles that Fall Under Software Development According to Participants Responses.

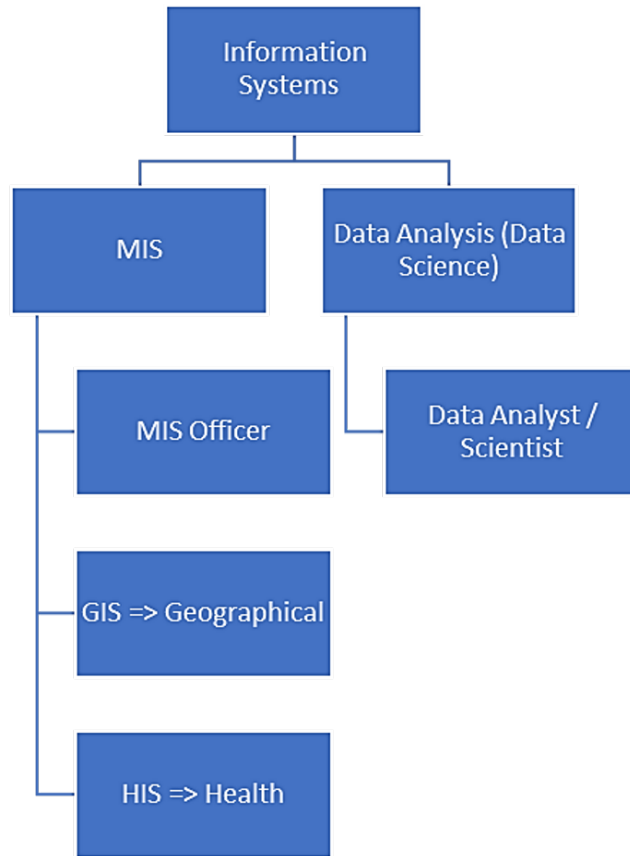


Fig. 4: Facilitator Patterning of Jobs and Roles that Fall Under Information Systems According to Participants Responses.

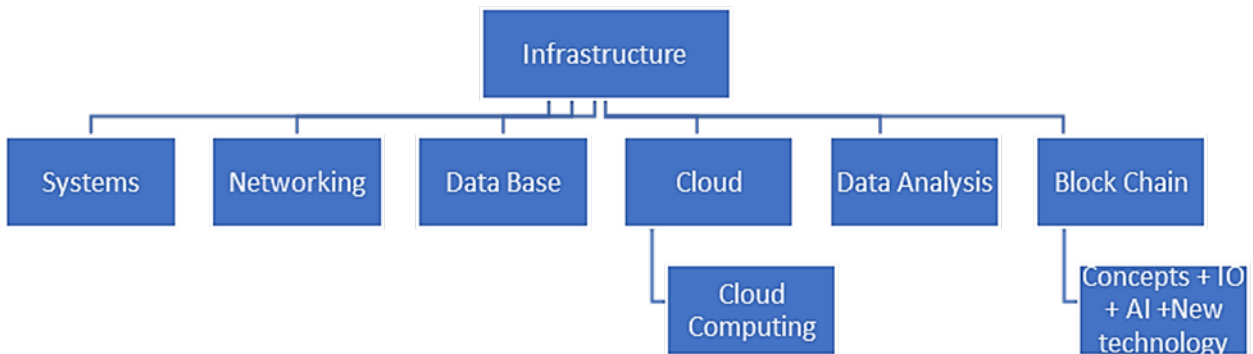


Fig. 5: Facilitator Patterning of Jobs and Roles that Fall Under Infrastructure According to Participants Responses.

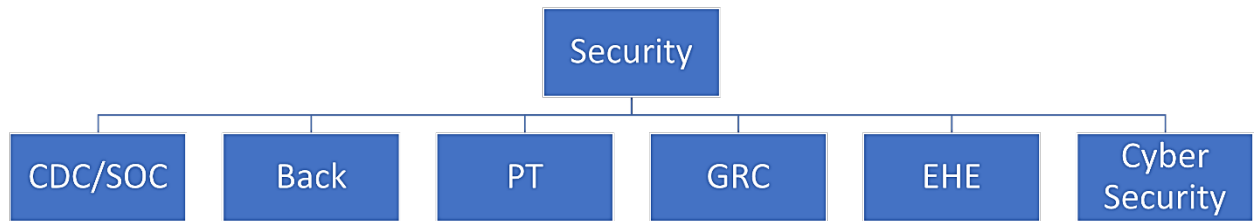


Fig. 6: Facilitator Patterning of Jobs and Roles that Fall Under (Security) According to Participants Responses.

4.2. Skills (Q3)

Figure 7 shows the three classifications that evolved as a set of skills that a diploma graduate in CSIS should acquire during his/her studies. It is preferred to focus on not more than five skills, and there is a need to integrate them within the learning outcomes of the current program and the new programs.

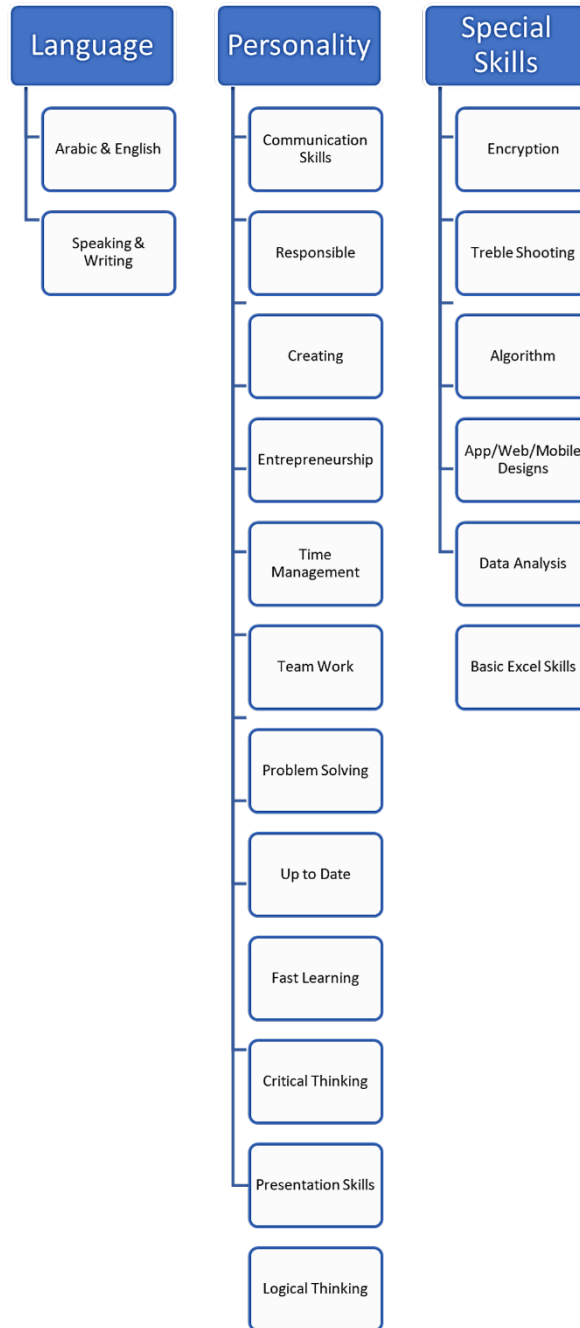


Fig. 7: Graduate Desired Skills Derived from Participants Responses.

4.3. Tasks (Q4)

Four classifications evolved from the analysis are shown in Figure 8, and each classification evolved a set of desirable tasks that a diploma graduate in CSIS should be able to perform upon completion of his/her studies.



Fig. 8: Graduate Desired Enquired Tasks Derived from Participants Responses.

4.4. Comments (Q5)

The comments, recommendations and opinions of all participants were written on sticky notes, collected, discussed, and finally analyzed by the facilitator into three main suggestions stated in Figure 9.

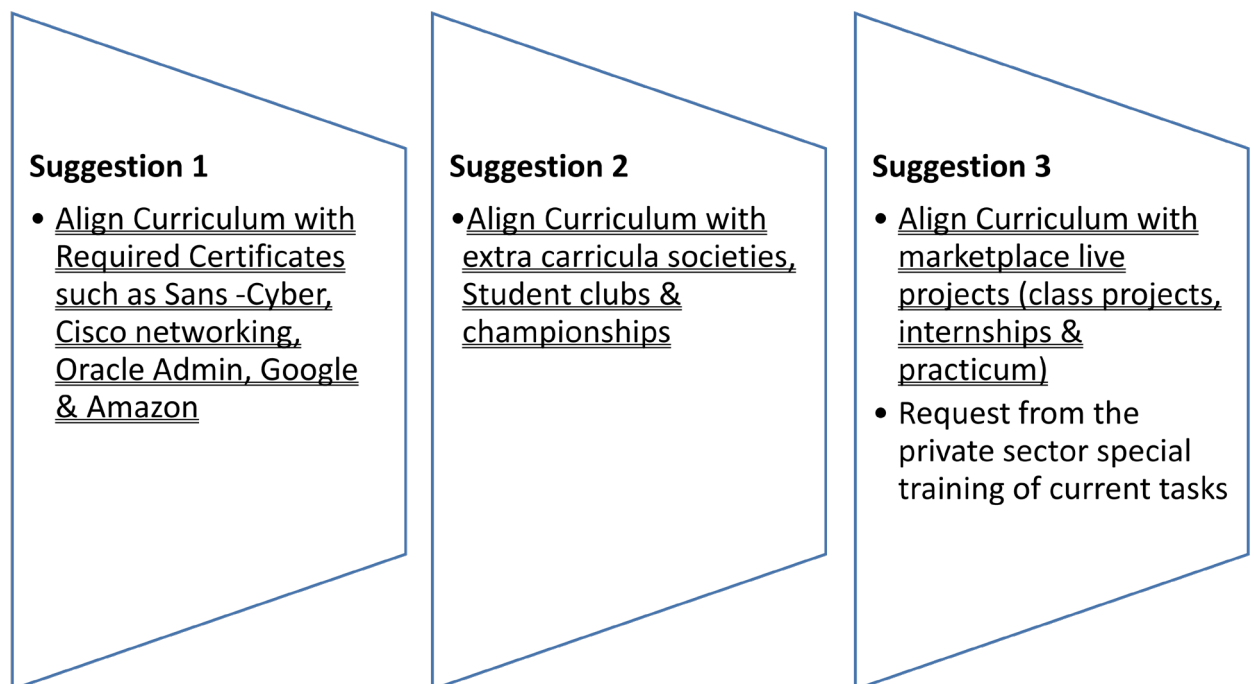


Fig. 9: Suggestions Patterning of Participants Responses.

4.5. Identity (Mission and Vision)

Concerning the mission message, a proposal prepared by the computing department aligned with the national vision of 2035 was distributed, and participants' perspectives were gained by allowing them to

make amendments of deletion and/or addition. From that, the following initial message was reached:

To prepare a *competitive* workforce for various positions in the field of information systems by providing them *applied* knowledge in computer sciences taught by *modern effective* methods that ensures *quality* business practices.

Concerning the vision message, a proposal prepared by the computing department aligned with the national vision of 2035 was distributed, and participants' perspectives were collected by enabling them to rate the three most appropriate phrases from the items in the proposal. From that, the following initial message was reached:

Create a healthy learning environment where students can be *competitive, productive, and fulfill marketplace demands*.

Enable students to integrate *new economic solutions* to improve the *quality* of lifestyle of citizens and residents by re-evaluating current bureaucratic practices to *plan, design and construct sustainable* e-business solutions.

The mission and vision need to include the current students and alumni perspectives. In addition, they need to be revised regularly, reflecting the scientific department's current and desired objectives of teaching methods and faculties' scientific research as the proper way of effective mission and vision writings, as was stated by Texas Tech University and as presented by Taiwo et al. in 2016.

4.6. New Programs

As for new programs that can be initiated, the results of the meetings confirmed the market's lack and need of employee candidates of technical and administrative backgrounds. Among the most prominent programs that could fall under the umbrella of the department and could easily be developed are the data science program and system/business analysis program. In addition to the market's lack and need of skilled workers in the Project Management Office, which connects all stages of the development of automated systems.

The stakeholder participants also emphasized the importance of soft skills such as spirit of competitive competition, as it as a principle appeared in the initial message and the initial vision, and thus a way must be found to include them in the curricula and evaluation methods, especially projects.

4.7. Validation

Finally, face validity, where the developed identity is evaluated and validated by experts, was used. Three field experts from academia, the public sector and the private sector were chosen to validate the results of the study. Experts rated the suitability of the identity results and the potential for it to evolve to represent the department's identity. The experts confirmed that software project management would be a feasible and desirable educational brand identity. Embedding project management skills within the current curriculum is essential specifically for departments within businesses schools. Once graduates are empowered with project management skills then this uniquely sets them apart as desirable potential employees in the local marketplace. In addition, all experts approved of the marketplace projections that emphasized the importance of the current "software programming" program and indicated the possibility of adding new tracks. Specific graduates could pursue deeper specializations, for example as frontend or backend developers. The expert participants also stressed the need to add other courses that keep pace with the concepts of current on-trend technology that enrich student knowledge.

4.8. Practical Implications

These findings suggest that SC can be achieved using team facilitation tools to help reach consensus among strangers in groups (Chapleo & Simms, 2010; Nasrulhaq et al., 2020). Group facilitation formed a collective agreement among stakeholder representatives to curate an educational brand identity that is viable through the use of systems concepts. The results build on existing evidence of the ability of the KJ method to minimize bias and establish collaboration. This can be achieved by ensuring that team

members have strong psychological power and are working collaboratively. The KJ method, which enforces structure, is an appropriate tool to facilitate this process.

It is important for educators and administrators to recognize the significance of SA and SC in the development of effective teams. By implementing these strategies in the branding that reflects the curriculum design process and further using them within teaching would help in fostering a collaborative learning environment, students will be better equipped to thrive in the fast-paced and constantly changing field of computing. Moreover, the use of SA and SC can also improve the performance and productivity of IS development teams in industry settings by integrating them with compatible facilitation tools such as the KJ method.

Furthermore, by emphasizing the importance of team resilience and collaboration (Cheng, Hsu, Li & Brading in 2023), and embedding them within curriculum, higher education programs can help to mitigate the negative effects of the highly competitive and individualistic culture that often characterizes the computing industry. This can lead to a more inclusive and supportive work environment where all team members feel valued and supported.

The use of SA and SC in higher education has practical implications for the development of effective teams in the computing field. Educators and administrators can use these strategies to foster a collaborative learning environment and prepare students for success in a fast-paced and constantly changing industry.

5. Conclusion, Limitations and Future Studies

A systems thinking paradigm was used to accommodate the complexity of curating an educational business computing brand identity in this rapidly evolving IT environment. It was embedded within the administration of a case study that encapsulated current and future marketplace projections in a distinct and viable manner. The study adapted the KJ method for meeting facilitation and positioned it into a marketplace meeting process for brand identity and future projections curation within a systemic process. The performance of SA in the initial stage helped identify the group individuals, and the KJ method enforced their collaboration.

The process within the KJ method administration ensured collaboration among stakeholder participants and improved the quality of information and shared knowledge. In addition, the embedded coding and theming structure of the KJ method followed the qualitative analysis literature in sync with the Three-Coding Framework stages (Nyumba et al., 2018) of content analysis—data coding (ideas, patterns, relationships and themes), content analysis—focused coding (merge, delete and subdivide) and ethnographic analysis drawn from direct quotations. The KJ method enforced SC among a group of strangers overcoming interpersonal differences. It ensured the elicitation of information in a nonbiased manner from the participants without imposing the department's opinion on them. The integration of SA, SC and marketing projection factors in a holistic systems manner aided in curation of an educational brand identity that is viable and reflects its marketplace environment. The SA was essential in identifying the participants, and SC promoted the process of a viable brand identity incorporating stakeholders' perspectives using systems thinking and team facilitation tools.

Results from the consolidation indicate an initial and insipient approach that potentially sustains a brand identity of business computing departments in a systemic manner. The study fills the research gap on the necessity of IT brand identity in computing programs under business schools. It also adds to the literature of systems as it emphasizes the significance of incorporating systems thinking concepts within team facilitation. Systems thinking enforces viable solutions. Furthermore, the results enrich the content of current and new curricula synchronized with the brand identity of the business computing department. The administration of the approach signifies its potential for encapsulating future IT projections in developing the brand identity of business computing programs.

Stakeholder collaboration is essential for developing a strong and successful educational brand identity. By bringing together a range of stakeholders and engaging in meaningful discussion and

dialogue, educational institutions can gain valuable insights into their brand and what it represents to them, their stakeholders and the wider community. Through this collaboration, educational institutions can create and refine their branding strategy to ensure the message they are communicating is clear and consistent, enabling them to better connect with their stakeholders, their brand and their overall mission. Ultimately, SC is a key part of establishing and maintaining a successful educational brand identity.

Acknowledgments

This research is supported by the Public Authority for Applied Education and Training grant research number BS-20-01, order number 1075 in Kuwait.

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