
BUILDING STUDENT LOYALTY TO UNIVERSITY: CONTRIBUTING TOWARDS CYBERNETIC PSYCHOLOGY

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Abstract: This research introduces cybernetic psychology concept in brand management, validating empirically the essential and synchronistic functions of the autogenesis and regeneration, and autopoiesis and operative reinforcement elements of a so-called cybernetic system (i.e. university, tourist destination place). While the autogenesis function of brand identification indicates a shared brand value which also reflects values shared among the students and other stakeholders, the perceived engagements and experiences are indicative of concrete and material reality embodied by the university brand. In particular, the cybernetic psychology embraces the theory of environmental psychology, theory of anthropomorphism, theory of brand profiling, view of brand loyalty formation, and shares the core concepts of the Marketing Systems School and Consumer Behavioral School of Marketing, which presents a significant key contribution to the existing bodies of knowledge in the brand literature. The cognitive-operative elements of brand management thus become the strategic choices of the university to position for resource-advantages (refer to Resource-advantage Theory), which exploits both tangible engagements of the students and the intangible brand personality skillfully.

Keywords: Brand Management, Cybernetic Systems, Higher Learning Institution, Resource-Advantage Theory.

Introduction: Firms vary to the extent that “they adhere to their business and marketing plans” (Morgan and Hunt, 2002, p. 451). Marketers often relies on brand management as an effective dialogue, communication and relationship platform with customers (Kaumann et al. 2016), as an efficient way to differentiate from among the competitive choices available. Nevertheless, for brand to be effective, organizations must be able to stimulate quality brand experiences, especially those experiences that have unique brand personality (Lin, 2010). In fact, brand personality has been recognized as indicating the effectiveness of marketing efforts (Arora and Stoner, 2009).

Brand focus is particularly important in highly competitive environment where organizations feel the need to react to market-based pressures creatively. Despite its importance, research that studies branding in higher education is relatively new (Idris and Whitfield, 2014, p. 41), and towards this end, Palmer, Koenig-Lewis, and Assad (2016) study the mediating role of brand identification. Palmer et al. (2016) approach their research from a standpoint which recognizes brand as a “long lasting and stable reference” (Kapferer, 2008, p. 37) and thus they stress on recalled brand perceptions rather than brand perceptions at the time of consumption.

This research considers higher learning institution as involving in a value co-creation process in the nurturement and empowerment of students, such as by engaging the students with new experiences and transformational processes (Wilson and Elliot, 2016), both academically and socially (Palmer et al. 2016; Yue and Tan, 2016), the following research objective is established:

This research sets its objective to study how the perceived student experiences and engagement, in academic and social domains, and the perceived brand identification which reflects the relevancy of the students to the university brand personalities, by positioning within cybernetic psychology field of knowledge. As discussed in Scott (2011), in cybernetic psychology, it recognizes two significant roles – namely, cognition and operative processes, in the working towards regulating and managing a dynamic system like university, which are responsible for conceptualizations and implementations and executions of the concepts, as typified in a model-based management system. In other words, this research treats the brand management as a model-based management system (Ambroz and Derecin, 2010), which incorporates the explicit and formalized brand personality as cognitive model to regulate the student experiences and engagements both academically and socially. By embedding psychology in a cybernetic socio-technical system, the intelligent nature of the university’s dynamic systems under study has exploited mechanisms of intrinsic control (Beer, 2002), such as brand personality, as regulator or control (Wiener, 1948) for the systems behaviors, in real-time. In this way,

cybernetic psychology is essentially a domain of the second-order cybernetics which studies the cybernetics of observing systems, rather than cybernetics of observed systems as in the first-order cybernetics (Foerster, 1974).

In doing so, this research presents a significant contribution to the existing knowledge by underpinning on cybernetic view yet exploiting existent theories of environmental psychology, anthropomorphism, the “extended self”, “self-congruence,” and brand profiling that are familiar to researchers of the brand-related literature. Thus, this research provides a cybernetics oriented cognitive-operative framework for the university to manage its brand, strategically, in order to position in the minds of the students through creating uniquely differentiated brand personality and richness of the student experiences and engagement. In this way, the brand engagement by the university is established through exploiting the aligned mental (brand personality), social (social experiences of the students) and physical elements (student experiences and engagements) of student experience typology (cf. Aho, 2016).

Literature Review: Research and knowledge about brand are rich and are still growing. Nevertheless, observation that “a theory of the brand remains missing” still holds true today (Chernatony and Dall’Olmo Riley, 1998, p. 417). To fill the gap, this research applies and adapts the cybernetic psychological concepts in explaining how an university can better exploit brand for her advantages. To accomplish this task, one must understand what a successful brand is, which de Chenatony and McDonald (2003) state that a brand is successful when an identifiable product, service, person or place, is augmented in such a way that a buyer or user perceives relevant, with unique added values to match the needs of customers more closely, and has comparative advantage comparing with competing choices. More fundamentally, to be successful, customers must perceive that the brand delivers what it intends such as meaning, direction and identity in time and space (Kapferer, 1992). However, unless a brand’s concept and its image are effectively managed throughout the life of the brand, that is throughout the experience encounters of customers with the brand (Park, Jaworski, and MacInnis, 1986), brand management would not be successful. Park et al. (1986) identify a need to execute the brand management strategies to meet functional, symbolic and experiential needs expected of the customers – respectively as brand’s ability to attend to solve customer’s problems at hand, for self-enhancement or some self-identification, and to provide cognitive, affectionate and emotional stimulations or engagements of the customers. In other words, the operative aspect of brand management must go hand in hand with the cognitive design of brand management, as it is reinforced in the cybernetics systems concept. The cybernetics systems concept thus shares some of the core concepts of the Marketing Systems School which prescribes a commitment to the total systems approach (Alderson, 1964), and Consumer Behavior School of Marketing which takes the marketing efforts closer to influence consumer psychology and behaviors, by treating the perceptions and attitudes as important variables (Engel et l. 1968; Sheth, 1992).

Conceptual Model: Despite the economic significance of brand, there are relatively few theoretically oriented brand studies of universities. This study serves to shed light on the roles of experiencing and brand personality factors on brand loyalty by positioning the study in cybernetic line of insight, which incorporates also the theory of environmental psychology, theory of anthropomorphism and theory of brand profiling. The contribution is not only about revealing the causative structure of brand impact on students but also in implying to the university on brand management strategies. As student experience is the internal and subjective response the student has with his or her studies, this research approach thus focuses on the experiential and phenomenological terms, which captures the phenomenological characteristics of student experience, in addition to process-based characteristics and outcome-based characteristics of student experiences and engagement, as shown in Figure 1.

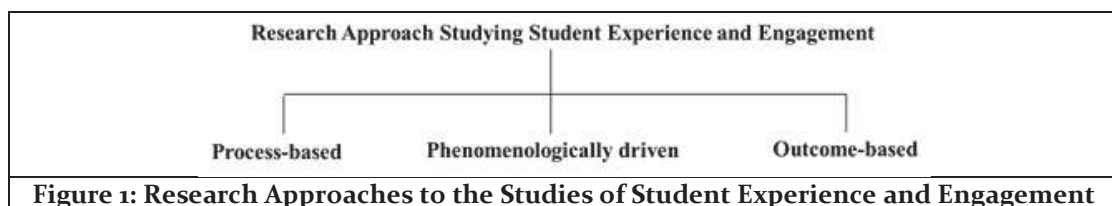


Figure 1: Research Approaches to the Studies of Student Experience and Engagement

Specifically, this research employs a survey-based phenomenologically driven, which is purported to study the validity of the cybernetic-structural model that describes the roles of experiential values received by the

students as well as the perceived personalities of the university and thus self-congruence in influencing student loyalty and student support for the university.

Variables which influence brand achievements are wide-ranging, and a snapshot of the literature review highlights the following:

- Firm's role in orchestrating a coherent organizational and marketing approach (de Chernatony and McDonald, 2003), i.e. advertising (Rajagopal, 2006)
- Customer experience (Keller and Lehmann, 2006).
- Positioning in the minds of customers for competitive differentiation purpose (Keller and Lehmann, 2006)
- The service or experience characteristics or quality realities that relate to represent the personalities or image of brand (Aaker, 1997), the impression or perceptions of the brand performance through the services and products offered and prices (Hartman and Spiro, 2005) and relationships formed with the customers (Martenson, 2007).

Examples of the significance and benefits of brands are manifested as follows:

- Meaning is assigned to the brand (Elliott and Wattanasuwan, 1998)
- Brand is a valuable intangible asset that is difficult to imitate (Roberts and Dowling, 2002)
- Brand signifies and represents the summative value proposition characteristics and a reputation of the organization that acts to reflect the accumulated past behaviors which can be used to predict future actions (Martenson, 2016).
- Brand enables the customers to easily and confidently make decisions relating to product or service choices (Dimitriadis and Langeard, 1990).
- Brand can significantly influence buying decision of customers (Rajagopal, 2006).

Based on the above discussions, for brand to have significant influence to customers' decisions making, it is vital brand organizations are capable to offer tangible characteristics of the offerings (Rajagopal, 2006) that accumulatively present to the customers the meaningful brand personalities that match the preferences of the customers, i.e. self identity. Specifically, brand that creates the differential effect through unique brand knowledge gained by the customers would lead to the development of brand equity.

Theories applicable for this research are:

- Theory of environmental psychology – which has been exploited to describe the so-called “brandscape” (Sherry, 1986), explaining that consumers do form a Gestalt-picture towards the various aspects that relate to brands, being caused by the associative relationship of the customers with the brand that is driven by composite representation of cues, as well as the inductive conjecture of the customers towards the brand (Flight and Coker, 2016).
- Theory of anthropomorphism – This theory is attempted to explain that consumers attribute human emotions and behavioral traits to brand to help them form a better understanding and relationship to the brand (Fournier, 1998; Oslo and Allen, 1995). In other words, by inferring from the insights articulated in Aggarwal and McGill (2007), the anthropomorphic theory offers an explanation that the students explain the university brand in terms of their own experiences and perceptions by granting human qualities to brands. In addition, this theory is also related to the theory of “extended self” developed by Belk (1988) in that brand personality enables the students to identify themselves, which, in this research, would be operationalized by brand identification construct.
- Theory of brand profiling which describes how brand and its competitors are profiled against a set of indicators and attributes (Rajagopal, 2006).

Different theories are not unrelated. For instance, when the theory of anthropomorphism is studied by situating within the context explained by the theory of environmental psychology, it can be inferred that customers would prefer brand personalities that support their given contextual situation (Monga and Lau-Gesk, 2007).

Towards this end, the fundamental theme of this research is that university brand becomes the experience (Pralhad and Ramaswamy, 2004), which also involves psychological engagement that studies how students perceive personalities of the university as a brand. According to the theory of environmental psychology and anthropomorphism, and brand profiling, the psychological engagement of student provides a sense of belonging (Arnett et al. 2003) which relates brand personality (Aggarwal and McGill, 2012) through brand

identification. In particular, the social engagement and the academic participation of the students are examined for the role student experience and engagement, as shown in Figure 2 – the conceptual framework.



Figure 2: The Conceptual Framework – A Cybernetic View of Brand Loyalty Formation

According to Kaufmann et al. (2016, p. 517), when customers have the social engagement and resonance, customers will “have a strong feeling of obligation towards the community and will engage in joint actions to accomplish collective goals” – This is inferred by the existence of brand support for the university, at the post brand loyalty stage.

To implement the theory of “extended self” (Belk, 1988), a brand identification construct is used, which reflects the relevancy of the brand to self, as asserted in Sirgy’s Self-Congruity Theory, and represents how brand personality enables consumers to identify themselves with the university brand, and thus captures the psychological reactions to the brand. Personality traits are operationalized based on the Big-Five Factors and the essence of these five personality traits, described as agreeableness, conscientiousness, extraversion, neuroticism (or its opposite emotional stability), and openness-to-experience, are given in Migliore (2011).

Specifically, Figure 2 captures the autogenesis and regeneration, and autopoiesis and operative reinforcement elements of a so-called cybernetic system (i.e. university, tourist destination place), and thus, the conceptual framework shown in Figure 2 can be acknowledged as a cybernetic psychology view of brand loyalty formation – a significant key contribution to the existing bodies of knowledge in the brand literature. According to Yolles (2014), the roles of autogenesis and autopoiesis of a cybernetic system are provided as follows:

- “Autogenesis facilitates the ability to create, organize, and prioritize according to some cognitive interest associated with self-identification that permeates the cognitive system for a given operative context.” (p. 96). From the customer perspective, brand identification may signify an aspiration to the customer (that customer associates with a brand through the brand’s ability to provide significant benefits to the customers, Sirgy, 1982) or as fit between the customer’s self and the brand’s personality or image, which is known as “self-congruence” (Aaker, 1999)
- “Autopoiesis facilitates the ability to connect elaborated figurative (or strategic) schemas to a set of possible operative actions that conform to these schemas under the given context.” (pp. 96-97). In this research study, the operative schema is represented by the perceptions formed of the quality experience of the students in terms of the delivered attributes of the educational processes. Thus, from a cybernetic psychology perspective, each quality experience operative of the students would reinforce the student’s self-identification perceptions and attitudes towards the university brand, and thus generates opportunity for the university brand to gain unique market position.

In short, Figure 2 can be explained as a cybernetic psychological system of brand management, which describes a collective cognitive-operative process. Yolles, Fink and Dauber (2011) name the cognitive element of cybernetic system as functioning to activate the normative personality, and the operative system in establishing the self-regulating and self-reflecting capabilities to stimulate the levels and scopes of desired student experiences and engagement. The autogenesis and autopoiesis mechanisms of brand management essentially form the so-called collective efficacy agency of the cybernetic system. In addition, both brand identification and the students’ experiential engagements and their scopes also connote the perceived brand quality which represents how well the university brand generates the ability for continuing the relationships and bondage with the students (Bharadwaj, Tuli and Bonfrer, 2011).

By incorporating brand personality in fostering and developing the student identification with the university brand, it actually exploits a theoretical concept of the brand research in that brand concept is a way to manifest human value. As stated in Torelli, Ozsomer, Carvalho, Keh and Maehle (2012), p. 93), brand values are “abstract representations of desired end-states that serve as guiding principles in people’s lives” (also see Schwartz, 1992). Thus, while the autogenesis function of brand identification indicates a shared brand value which also reflects values shared among the students and other stakeholders, the perceived engagements and experiences are indicative of concrete and material reality embodied by the university brand (Allen, 2002). Brand personalities, as shown in Figure 2, are operationalized by five broad-based personalities originated in Aaker (1997) – that is, “the set of human characteristics associated with the brand” (p. 347), and the essential characteristics are given in Tong and Su (2014, pp. 180-181), as follows:

- Sincerity – “is typified by traits such as wholesome, down-to-earth, and honest.”
- Excitement – “is typified by traits such as daring, spirited, and imaginative.”
- Competence – “is typified by traits such as reliable, intelligent and successful.”
- Sophistication – “is typified by traits such as glamorous, upper-class, and charming.”
- Ruggedness – “is typified by traits such as outdoorsy, masculine and tough.”

Method: The research objective is aimed to provide the empirical validation evidences to the conceptual model shown in Figure 2. Having acknowledged a typically stage-based brand consumption experience of the customers, as discussed in Kaufmann et al. (2012), customers may show a primal attraction to specific brands at initial stage, but as customers’ experiences evolve, customers form self-identification attachment to the brand as a result of a congruence between the customers’ values and the brand, which, may finally lead to resonance with the brand. The latter is exemplified by the attitudinal or behavioral loyalty of the customers towards the brand, and as a result, when guided by the explanation of the theory of environmental psychology, and theory of anthropomorphism and profiling, customers feel that they are rewarded by the established relationship with the brand that matches the emerging need of belonging (Arnett et al. 2003). Thus, to study the influence of student experiences and the perceived brand personality impacts on students’ brand loyalty to the university, only students who are in the third and fourth years of studies are engaged for the survey participation, as they have had some levels of experiences and reasonably stable perceptions towards the university brand. In other words, the necessary brand experience (Kaufmann, Loureiro and Manarioti, 2016) is used as the criterion that guides the sample selection.

There is a limitation in the survey instrument. As brand personalities are operationalized in single statement, and although their definitions are provided, it may cause huge measurement errors, and thus, the objective here is only explorative in nature. This single-statement questionnaire serves only the purpose of shortening the duration of response needed by the students, as multi-statement items could be lengthy, as in Aaker (1997) who developed a 42-item measurement scale called the brand personality scale. Nevertheless, interviews are conducted to seek the qualitative details of the students’ perceptions towards brand personality of the university.

Research Finding: The finding is concluded based on 105 student participants, at third and fourth year of the school of management at Mae Fah Luang University, whom are approached on voluntarily basis in October 2016. At the 105 participant level, this research is at best exploratory in nature.

Table 1 displays the total variance explained at three stages for the job preference characteristics of the students. At the initial stage, it shows the factors and their associated eigenvalues, the percentage of variance explained and the cumulative percentages. In reference to the eigenvalues, we would expect six factors to be extracted because they have eigenvalues greater than 1. If the six factors were extracted, then 70.434 per cent of the variance would be explained. The total variance explained at the final stage is then shown. This final statistics table displays the communalities and factor statistics after the desired number of factors has been extracted, and one can notice in Table 1 that the eigenvalues since factors six have now dropped below 1 and that the percentage of variance explained by the six factors remain at 70.434.

Table 1: Total Variance Explained

Component	Initial Eigenvalues			Total Variance Explained			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.818	47.816	47.816	17.818	47.816	47.816	17.818	47.816	47.816	17.818	47.816	47.816
2	3.130	8.058	55.874	3.130	8.058	63.932	3.130	8.058	56.074	4.822	12.839	37.893
3	1.742	4.709	60.783	1.742	4.709	62.725	1.742	4.709	57.823	3.831	10.355	48.165
4	1.319	3.564	64.347	1.319	3.564	63.647	1.319	3.564	59.142	3.071	8.301	56.466
5	1.156	3.124	67.471	1.156	3.124	64.803	1.156	3.124	60.298	3.029	8.187	64.653
6	1.096	2.963	70.434	1.096	2.963	65.909	1.096	2.963	61.434	2.139	5.781	70.434
7	.952	2.574	73.008									
8	.797	2.155	75.163									
9	.731	1.976	77.139									
10	.661	1.785	78.924									
11	.607	1.640	80.564									
12	.575	1.555	82.119									
13	.532	1.439	83.558									
14	.522	1.414	84.971									
15	.490	1.324	86.295									
16	.467	1.261	87.557									
17	.426	1.151	88.708									
18	.408	1.103	89.811									
19	.393	1.062	90.873									
20	.325	.880	91.753									
21	.310	.839	92.592									
22	.307	.831	93.423									
23	.299	.808	94.231									
24	.244	.658	94.889									
25	.230	.644	95.533									
26	.214	.579	96.112									
27	.199	.537	96.649									
28	.186	.503	97.152									
29	.174	.469	97.621									
30	.159	.430	98.052									
31	.143	.387	98.439									
32	.129	.350	98.788									
33	.118	.319	99.107									
34	.094	.255	99.362									
35	.087	.236	99.598									
36	.083	.225	99.824									
37	.065	.176	100.000									

Extraction Method: Principal Component Analysis.

Specifically, the six extracted factors which describe the job preference characteristics of the students are shown in Table 2, also listed in the descending order as follows:

- Security, job resource support and reward: mean 3.9649 (std. dev. 0.7512)
- Conditions, competition and personal growth: mean 3.8984 (std. dev. 0.79947)
- Job cognition scope: mean 3.7962 (std. dev. 0.72535)
- Job flexibility, visibility and social contribution: mean 3.7476 (std. dev. 0.77269)
- Stimulation: mean 3.7 (std. dev. 0.82509)
- Status and tranquility: mean 3.6619 (std. dev. 0.70283)

The mean profiles indicate that the students perceive at a level that is moderately important (3) to important (4), and the histogram plots of the job characteristics are shown in Figure 3.

Table 2: VARIMAX-Rotated Exploratory Factor Analysis Result

	Rotated Component Matrix ^a					
	Component					
	1	2	3	4	5	6
Bonuses	.838	.144	.254	.118	.138	
Personal Relevance	.783	.213	.113		.219	
Recognition	.779	.119	.280			.158
Clarity	.768			.176	.380	
Comfort	.716	.124		.352	.160	
Benefits	.700	.107	.298		.282	
Perks	.682	.205	.235	.152	.108	.258
Equipment	.671	.269		.247		.383
Insurance	.665	.217	.152	.187	.259	.297
Pay	.652	.294	.283	.211	.183	.322
Promotion	.615		.429	.205	-.101	.290
Supervision	.562		.236	.153	.526	.253
Location	.560	.372	.453		.130	-.109
Security	.519	.178	.404		.278	.339
Balance	.512		.505	.195		
Teamwork	.456	.364	.273	.171	.213	.128
Conditions	.168	.810			.288	
Competition		.802	.159	.172	-.149	.150
Social Interaction	.120	.750			.188	
Organizational Image	.209	.658	.406		.113	.205
Responsibility		.605	.536		.223	
Personal Growth	.423	.484	.172		.372	.268
Safety	.465	.479	.399		.293	
Regularity	.266	.218	.687	.261	.140	
Simplicity	.443	.152	.594		.152	.167
Intellectuality		.487	.493			.278
Power	.361	.395	.482	.198	.206	
Independence	.170	.169		.802	.165	
Flexibility	.570		.159	.611	.126	.164
Effortlessness	.429			.610	.144	.252
Visibility	.507		.287	.571	.285	.182
Contribution to Society	.244	.383	.452	.475	.152	
Stimulation	.182	.213	.231	.265	.769	
Teaching	.385	.307	.161		.667	.231
Variety	.154	.339		.430	.647	
Status	.193	.307		.164	.217	.770
Tranquility	.390		.312	.317	.205	.576

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 8 iterations.

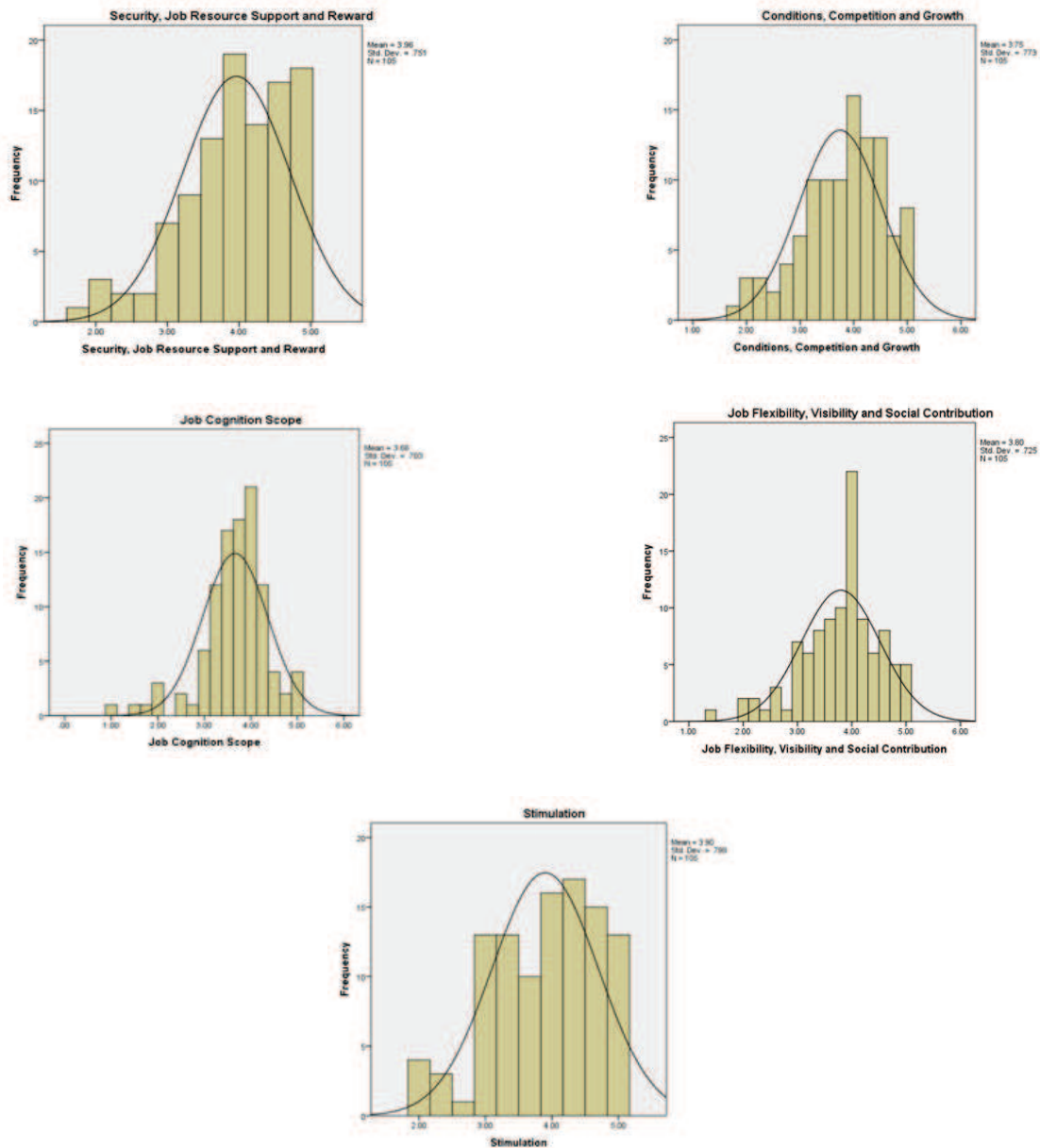


Figure 3: The Histogram Distribution of the Students’ Job Preference Characteristic

Figure 4 confirms the conceptual model as proposed in this research, with very high R-squared in the ability of the independent variables to explain the various dependent variables. For instance, recalled academic experiences, recalled social experiences of the students, and brand identification together explain 59.6 per cent of the variance in brand loyalty. Furthermore, the students’ preferred job requirement characteristics indicated as (1) conditions, competition and growth (Beta of 0.454), and (2) status and tranquility (Beta of 0.503), together with personality traits of conscientiousness (Beta 0.236) and agreeableness (Beta of 0.230) can also significantly explain 62.0 per cent of the variance in recalled academic experience. The other relationship structures are illustrated and can be explained accordingly as given in Figure 4. Status and tranquility explains job preferences that are generally recognized as “high-status” in the society and are not particularly stressful. The “conditions, competition and growth” characterize jobs that can be carried out in conditions that are safe, modern and clean, capable to have social contact with others, but are also provided with opportunities to compete with others, and opportunities for self-improvement, and are widely recognized and respected in the organizations and societies.

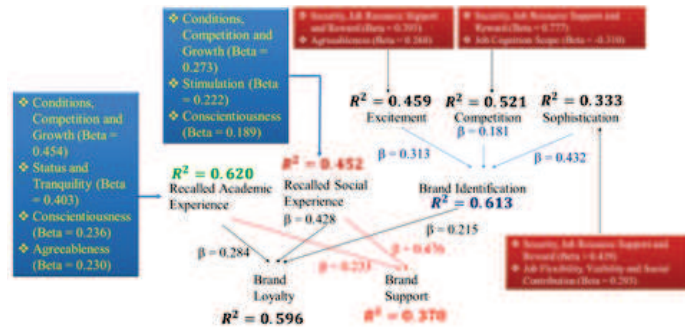


Figure 4: The Empirical Structure

The brand personality of the university perceived by the students are indicated in Figure 5, which shows competence at the highest level, but with mean of 3.7143 and a standard deviation of 0.96789 (ranging from Likert Scale of 1 = Strongly Disagree to 5 = Strongly Agree), following by excitement (mean 3.6286, std. dev. Of 0.93291), and sincerity (mean 3.4095, std. dev. 0.88465), sophistication (mean of 3.3810, std. dev. 0.88122), and at the lowest level, the Ruggedness, at mean of 3 and standard deviation of 0.99034, being described as follows (Aaker, 1997)

- Competence – Reliable, intelligent and successful.
- Excitement – Daring, spirited, imaginative and up to date.
- Sincerity – Down to earth, honest, wholesome, and cheerful.
- Sophistication – Upper class and charming.
- Ruggedness – Outdoorsy and tough.

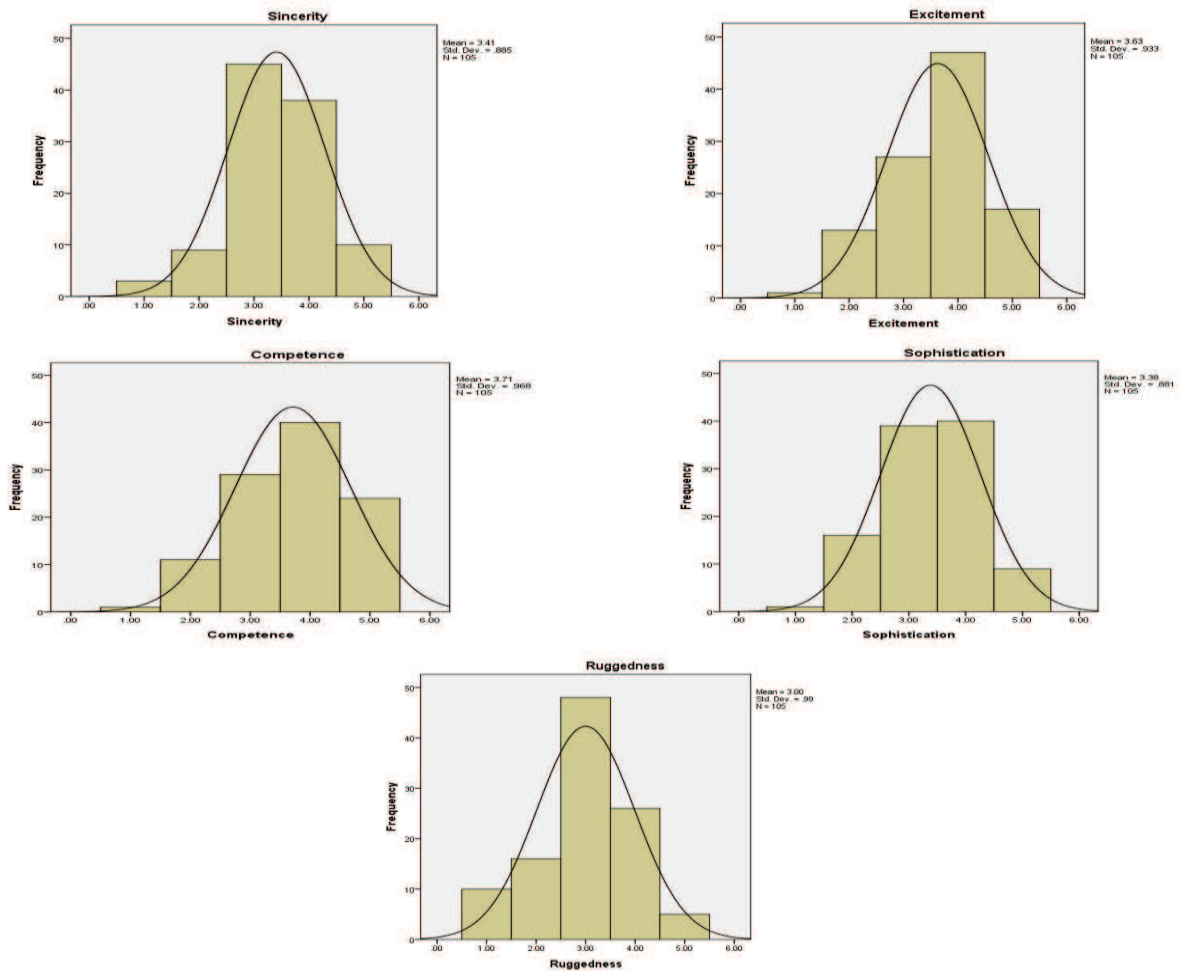


Figure 5: Brand Personality of the University

Personality traits are shown in Figure 6, with means of them being ranged in between 3.4188 to 3.5749, with standard deviation in between 0.64307 to 0.79095. The descriptions of these personality traits can be referred to Moe and Tan (2016):

- Openness to Experience – Shows an openness to a wide variety of stimuli and a willingness to take risks for the benefit of gaining new experiences: Mean 3.549, Std. Dev. 0.7305.
- Agreeableness – Refers to caring and affectionate attitudes toward other people. Mean 3.481 and Std. Dev. 0.74007.
- Extraversion – An extraverted person is one who shows the tendency to enjoy socializing with others. Mean 3.4285 and Std. Dev. 0.64307.
- Conscientiousness – Refers to a self-disciplinary attitude and behavior toward fulfilling the goals targeted. Mean 3.4190 and Std. Dev. 0.79095.
- Emotional stability – Refers to one who is relatively calm. Mean 3.4188 and Std. Dev. 0.69806.

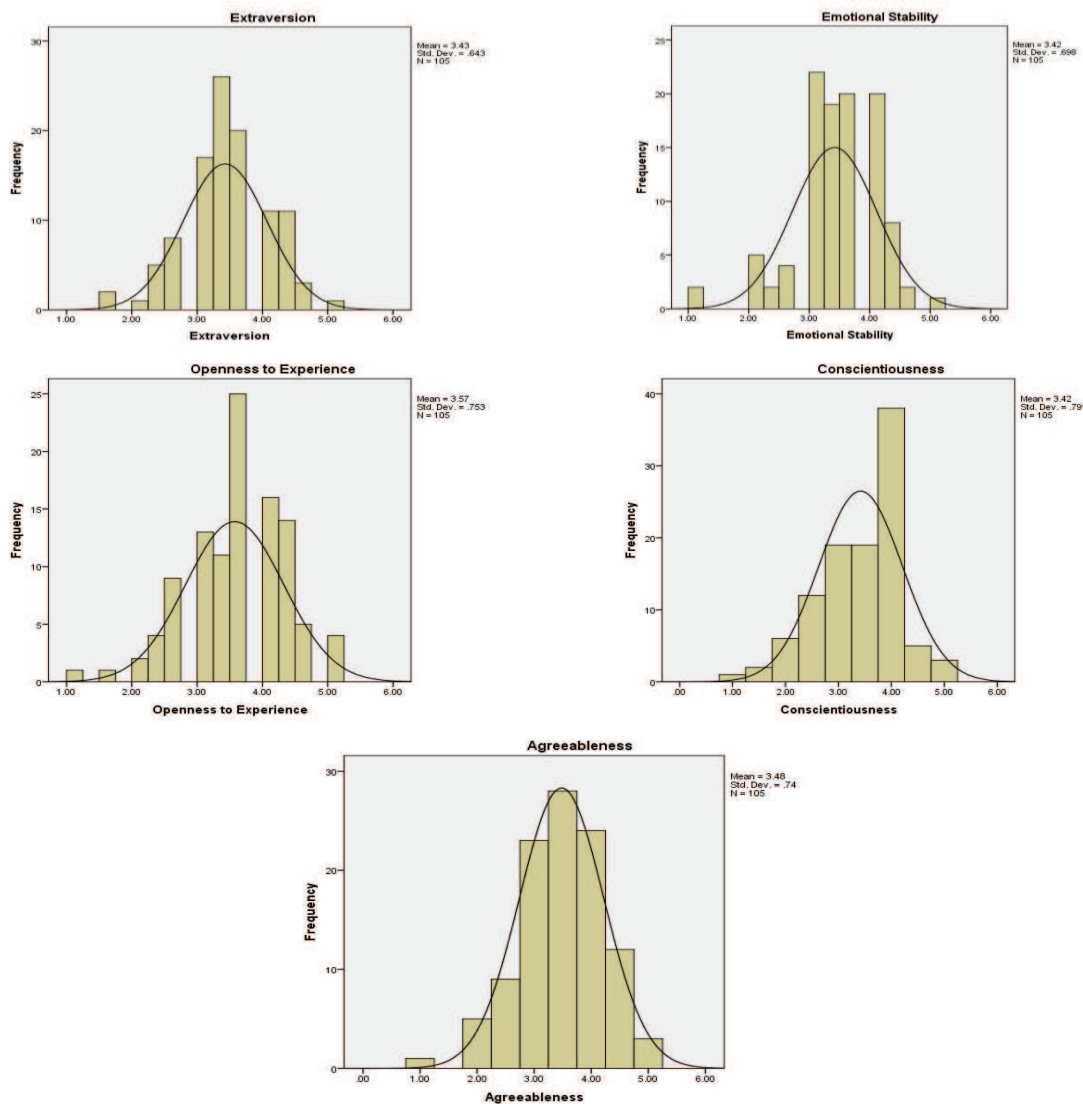


Figure 6: Personality Traits of the Students

The key dependent variables and the first-level of independent variables are shown in Figure 7, with brand loyal has a mean of 3.6976 and standard deviation of 0.81725, and brand support at mean of 3.3 and standard deviation of 0.98937, as the dependent variables, and the first-level independent variables of brand identification at mean 3.5643 and standard deviation of 0.80041, and recalled social experience of the students at mean of 3.5333 and standard deviation of 0.72063, and recalled academic experience at 3.5286 and standard deviation of 0.67432.

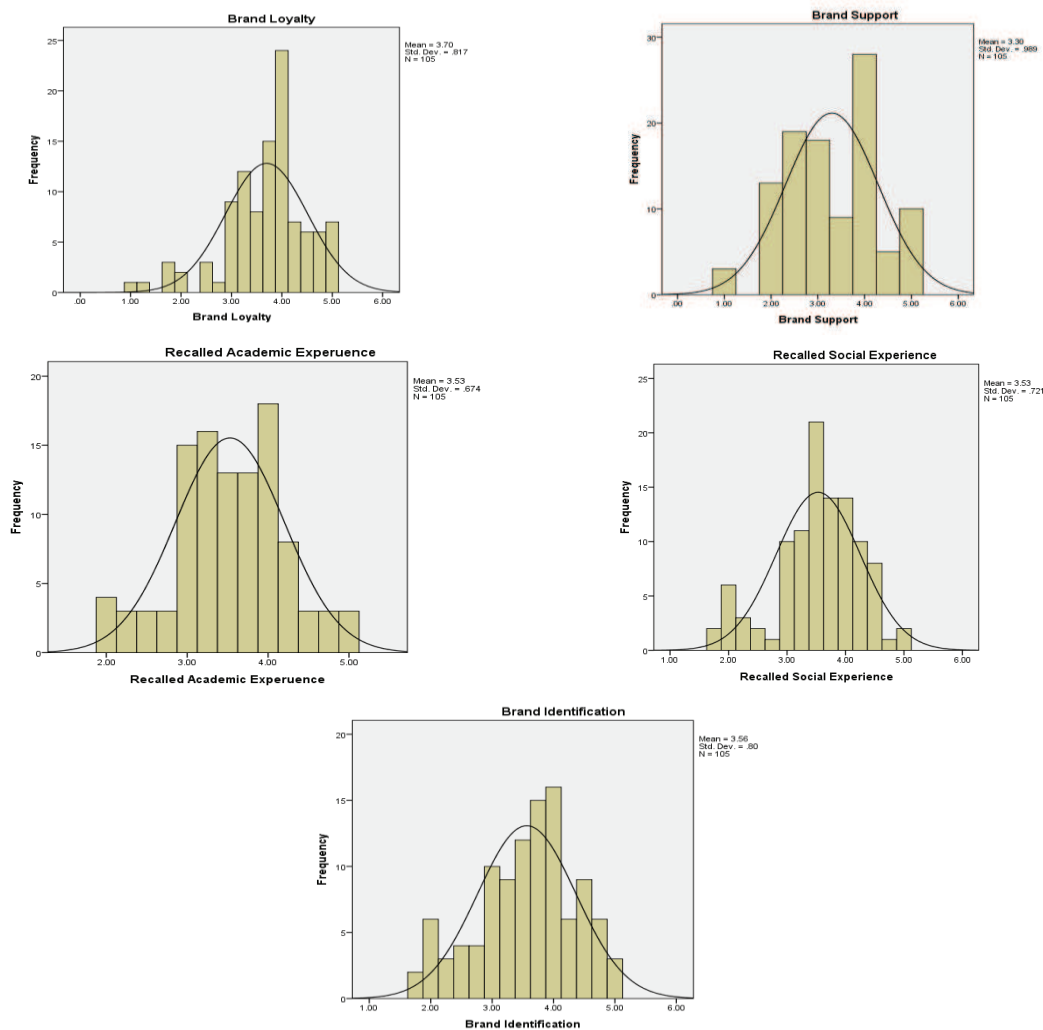


Figure 7: Dependent Variables and First-Level Independent Variables

Conclusion: By underpinning on a cybernetic psychology concept, this research exploits a model-based intelligent system approach in the study of brand management of the university, which is also enshrined in Stafford’s Viable System Model (Beer, 1984). Specifically, the cybernetic psychology concept employs brand personality as its cognitive guide to regulate and control the design and implementation of strategies of student experiences and engagement, both academically and socially. Concepts of cybernetic psychology are suitable as education is considered as a process which engineers human minds, and involves the fusion of engagement systems and human cognition and intelligence (Krieg, 2005). This research has empirically shown that cybernetic psychology can be a window of assessing how the students perceive the university and thus their loyalty and supportive responses. Particularly, brand personality is associated with brand identification, and together with the operative student engagement strategies, frame the perceptions of the students and their states of loyalty and future supports to the university. Clearly, brand personality has two roles – one being positive feedback and another is used as a negative feedback regulator (Muses, 1991) to regulate the engagement systems of the students as demonstrated in the strong correlations relationships revealed in this research.

Clearly, the university administrators can exploit the knowledge of the Resource-Advantage Theory (Morgan and Hunt, 2002), i.e. through experiential and engagement resources and processes, as well as brand identities in influencing the market positioning and student perceptions. The cognitive-operative elements of brand management thus become the strategic choices of the university to position for resource-advantages, which exploits both tangible engagements of the students and the intangible brand personality skillfully. By the fact that the intangible brand personality is less costly to build and the tangible student engagement is highly

effective and of significant values to both the students and the university, then according to the Resource-Advantage Theory, the validated model should lead to competitive advantage (Hunt and Morgan, 1996). Student engagements involve relational, innovation-driven practices, the interactivity among the students and the learning process, that are also highly correlated with the brand identification which is strongly linked to brand personalities. Thus, the students use their perceptions of the university's brand personalities and the environmental clues and their experiences to help them understand their relationships with the university brand, and thus, this research also validates the appropriateness of the theory of environmental psychology and theory of anthropomorphism, and brand profiling which describes how brand is profiled in the perceptions of the students.

Further Research: The interrelationship between autogenesis identification function and autopoiesis experience function can imply an existence of emotional brand attachment (Malar, Krohmer, Hoyer, and Nyffenegger, 2011). In other words, students would be emotionally attached to the university and its brand because the brand and the students' association with the university brand has the ability to increase the students' self-esteem (Ditto and Lopez, 1992) [see self-enhancement theory in that "people are motivated to increase their feelings of personal worth (the self-enhancement motive, Sedikides and Strube, 1997, cited in Malar et al. 2011).

In addition, this research work can easily be extended to studying how tourists react to a destination, which shares the autogenesis and autopoiesis functions of the destination and the tour experiences towards destination loyalty.

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Appendix:

Questionnaire Items: Instruction to answer. Please tick the appropriate cell-box. If you disagree with the question item, tick cell in column “2”. If you strong agree with the item, then tick at the appropriate cell in column “5”.	1	2	3	4	5
1 = Strongly disagree, 2 = disagree, 3 = Neutral, 4 = agree, 5 = Strongly agree.					
Extraversion:					
I see myself as someone who is talkative.					
I see myself as someone who generates a lot of enthusiasm					
I see myself as someone who has an assertive personality					
Emotional Stability:					
I see myself as someone who is relaxed/handles stress well.					
I see myself as someone who is emotionally stable/not easily upset.					
I see myself as someone who remains calm in tense situations.					

Openness to Experience:					
I see myself as someone who is curious about many different things.					
I see myself as someone who has an active imagination.					
I see myself as someone who likes to reflect/play with ideas.					
Conscientiousness:					
I see myself as someone who is self-disciplined.					
I see myself as someone who is organized/careful.					
Agreeableness:					
I see myself as someone who has a forgiving nature.					
I see myself as someone who is considerate and kind to almost everyone.					
Job Preference Characteristics:					
Below are listed 37 different work-related factors that may be important to you when you look for change jobs. Please indicate how much you personally value each one of them by ticking the appropriate number. Give higher ratings to factors that are more important to you and lower ratings to factors that are less important to you. There are no right or wrong answers - We are interested in your personal opinions.					
1 = Not important, 2 = Slightly important, 3 = Moderately important, 4 = Important, 5 = Very important.					
Balance – a job that allows me to lead a balanced life.	1	2	3	4	5
Benefits – A job that provides many features additional to pay, i.e. extra holidays.					
Bonuses – A job that provides many opportunities for topping up the basic salary.					
Clarity – A job with clear and well-defined roles and responsibilities.					
Comfort – A job that can be carried out in physically comfortable conditions.					
Competition – A job that provides me with opportunities to compete with others.					
Conditions – A job that can be carried out in conditions that are safe, modern, and clean.					
Contribution to society – A job that allows me to work for a good cause.					
Effortlessness – A job that is relatively easy to and does not require excessive effort.					
Equipment – A job that can be carried out with up-to-date equipment and technology.					
Flexibility – A job that allows me to work flexible hours to suit my personal needs.					
Independence – A job that allows me to work autonomously without much supervision.					
Insurance – A job that provides health and life insurance.					
Intellectuality – A job that is challenging and involves a lot of thinking and analysis.					
Location – A job that is conveniently located and easily accessible.					
Organizational image – A job within an organization that is widely recognized and respected.					
Pay – A job that is very well paid.					
Perks – A job that provides many extras i.e. company car, discounts on goods.					
Personal growth – A job that provides opportunities for self-improvement.					
Personal relevance – A job that provides me with opportunities to use my personal talents, education, and training.					
Power – A job that allows me to control my destiny and be influential.					
Promotion – A job that provides opportunities for rapid advancement.					
Recognition – A job that leads to clear and wide recognition of my achievement.					
Regularly – A job that can be performed in a standard, stable, and controlled manner.					
Responsibility – A job with many appropriate responsibilities.					
Safety – A job that can be carried out in safe and secure conditions.					
Security – A job that is secure and permanent.					
Simplicity – A job that is not overly complicated.					

Social interaction – A job that provides many good opportunities for social contact with others.					
Status – A job that is generally recognized as ‘high-status’ in our society.					
Stimulation – A job that I personally find very interesting.					
Supervision – A boss who is fair and considerate.					
Teaching – A job that allows me to train others and to pass on my expertise.					
Teamwork – A job that provides me with opportunities to cooperate with others.					
Tranquility – A job that is not particularly stressful.					
Variety – A job that allows me to get involved in many different kinds of activities.					
Visibility – A job that gives me a fair amount of publicity.					

Questionnaire Items: 1 = Strongly disagree, 2 = disagree, 3 = Neutral, 4 = agree, 5 = Strongly agree.	1	2	3	4	5
Recalled Academic Experience: I am satisfied with the extent of intellectual development the University has provided me.					
My academic experience at the University has had a positive influence on my intellectual growth and interest in ideas.					
I am satisfied with my academic experience at the University.					
I have performed as I anticipated in my academic pursuit.					
Recalled Social Experience: During my studies I have developed close personal relationships with other students.					
The student friendships I have developed at the University have been personally satisfying.					
My interpersonal relationship with other students have had a positive influence on my personal growth, attitudes, and values.					
My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas.					
Brand Personality: The University has the “Sincerity” Personality.					
The University has the “Excitement” Personality.					
The University has the “Competence” Personality.					
The University has the “Sophistication” Personality.					
The University has the “Ruggedness” Personality.					
Brand Identification: When someone criticizes the University, it feels like a personal insult.					
I am very interested in what others think about the University.					
When someone praises the University, it feels like a personal compliment.					
If publicity in the media criticized the University, I would feel embarrassed.					
Brand Loyalty: Say positive things about the University.					
Recommend the University to someone as a place of study.					
If I was faced with the same choice again, I would still choose this University.					
I am interested in keeping in touch with the University.					
Brand Support: Support the University by offering to come back and give talk to students.					
Support the University by offering to act as a mentor for students.					
