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ESJ Social Sciences

An Interview with Antti Juvonen: Creativity, Talent and Giftedness in Finland

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Abstract

- In your opinion, how well does Finland teach, mentor, coach and help gifted and talented and creative students?

I suppose you mean the school education context. I am afraid that gifted, talented and creative students have been almost forgotten in our Finnish school system. I believe that the only thing that is currently being done for gifted, talented and creative pupils is differentiating upwards, which means in practice, offering them some extra exercises. This is mostly because in Finland we have a system where pupils with special needs are put in normal classes with other pupils. It is called inclusion. Pupils with special needs have been supported with a so called “three step support” since 2011.

The first step is general support which the teacher offers with individual pedagogical solutions.

The second step is aimed for pupils with long-lasting wider needs for support. It is called intensified support. If this does not help the pupil, the system offers specific support which can be offered after quite comprehensive studies are made by psychologists and other specialists. The idea of this model was to help all pupils to get as good and comprehensive an

education as possible. What went wrong was that the cities and especially small towns, did not hire enough helping personnel to support the pupils with special needs.

This causes big challenges to class teachers who are put in a position of a special education teacher: they have to take care of pupils with special needs, but at the same time they should be able to teach the rest of the class with normal level pupils and the gifted, talented and creative pupils.

Of course, the pupils with special needs take most of their time, which means that the others must try to learn at least the minimum of the curriculum's requirements. The most gifted often become frustrated and start inventing activities which also disturb the classroom action and atmosphere. This happens because they are bored and do not get any response or activation or response for their innovativeness or special gifts. So, as a whole I see the situation quite poor from the point of view of those groups mentioned.

Keywords: Creativity, Talent, Interview

1) In your opinion, how well does Finland teach, mentor, coach and help gifted and talented and creative students?

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This causes big challenges to class teachers who are put in a position of a special education teacher: they have to take care of pupils with special needs, but at the same time they should be able to teach the rest of the class with normal level pupils and the gifted, talented and creative pupils.

Of course, the pupils with special needs take most of their time, which means that the others must try to learn at least the minimum of the curriculum's requirements. The most gifted often become frustrated and start inventing activities which also disturb the classroom action and atmosphere. This happens because they are bored and do not get any response or activation or response for their innovativeness or special gifts. So, as a whole I see the situation quite poor from the point of view of those groups mentioned.

2) How are they identified or tested?

Actually, they are not tested with any special tests. Usually, a wise teacher notes early on some pupils' abilities and special giftedness even in the first classes. The school age in Finland begins in the year when the children become seven years old. For different reasons it can be brought forward or delayed one year. For example, I started my school when I was six years old.

Often the special gifts are revealed through the children's hobbies. The traditional hobbies such as music, painting, drawing, sports, often show also children's talents at schoolwork.

Today, there are also several new areas of talents and giftedness, for example in connection with IT or smartphones iPads etc.

Giftedness may also show in usual schoolwork in many ways, but identifying it requires a wise insightful teacher. Not all teachers can recognize different talents. Actually, I am starting a major research endeavor among all school levels concerning traditional hobbies, but also other activities which youngsters conduct in their leisure time including taking photographs, making films, making music, drama or using other areas of their creativity. These activities are often passed by because they are not seen as "hobbies" in the traditional sense although they may include great amounts of creativity and giftedness.

3) How do you think being "labeled" affects them and their parents?

It depends a lot of the parents. My opinion is that they (those who are "labeled") should be encouraged and supported in all possible ways, but they should not be lifted up so that they start thinking that they are something

special. I have seen many examples where talented children (musicians) have become too proud even to say hello to their peers. That is a wrong path.

I think that it is mostly the parents' responsibility to keep their children's feet on the ground so to speak. Thinking too much of oneself may also cause a lot of troubles in the future when the truth is revealed.

It is natural that parents are proud of their children when they show success and show their talents, but this should not be the most important thing in their life. The target should be growing children to become happy and harmonized or well adjusted citizens who can use their gifts to reach valuable and meaningful targets in their life.

4) Does the gifted label affect non-gifted students just as much as gifted students?
If so, how?

In a group of students, for example in teacher education where I work, in music specialized studies groups there are always those who are better instrumentalists or singers than the others. If they behave nicely and politely while playing and singing with the others, everything can go smoothly without any difficulties or troubles. But if the gifted start to pressurize or bully the less gifted, the problems begin. The atmosphere drops or changes immediately and the non-gifted may even leave the studies for this reason. It may cause big traumas and difficult situations. This also depends on the teacher who can act in a way where these differences do not cumulate. This can be done emphasizing different kinds of giftedness and encouraging everyone in developing their special gift areas as well as those areas which still need to become better or show improvement or growth and development.

5) How can we support creative students and encourage creativity in colleges and universities (societies at-large) that are becoming increasingly standardized or rationalized?

At least we can encourage creative students in choosing the subjects of their master degree and even doctoral degree thesis so that they can use their creativeness in them. It means often breaking the traditional rules which causes extra work and sometimes difficulties in getting the works accepted. I remember one student who wanted to write his master's thesis using poetry meter. It was quite difficult to find another evaluator for it. Another student made his master's thesis as a short film about pupils exploring the nature phenomena.

Another way of supporting students in creativity is showing an example: if we can raise general interest in issues which require creativity, maybe it encourages the students to also do the same.

I don't believe that we academics could somehow affect the society and its rationalization or standardization. Unfortunately, it seems that in societies today, money and economical solutions are the only ones which rule.

6) Is creativity linked to resilience? (or as the Finnish say "grit"?)

I believe that it is, at least in some cases when the creative solution is not easily found. The famous Finnish "grit" has surely helped in finding solutions in many creativity-requiring issues, but grit does not offer solutions alone. Maybe it is in close connection with such situations where much trial and error -type exploration is needed. Resilience, commitment and imagination are all needed in finding creative solutions.

7) And is creativity perhaps linked to resistance- in terms of being determined by others?

Creativity often collapses with the resistance of less creative people, because creative solutions usually differ from traditional and familiar ones. Understanding creative ideas require an ability to disengage oneself from normal ways of acting and thinking. In Finland, we used to have so called "village idiots" in almost every small village. They were often misunderstood creative persons who could not express their creativity in traditional ways. Also, some artists raise resistance with their works and there are several whose works did not get any appreciation during their lifetime, but were valued high after their death.

8) How can we foster resilience or grit in academic settings, especially in gifted/talented populations?

The best ways of supporting creativity are, freedom of choice, offering enough time and space, freedom to make mistakes, and positive, encouraging atmosphere. All these are connected to resilience and offer the best opportunities to successful creative solutions. In Finland, people are used to living in quite harsh conditions, the weather sets challenges and also the geographic location has during the history taught its lessons to people.

I think that it is because of those challenges that Finns have gained the "grit". So, my opinion is that winning big and difficult challenges offers an

opportunity to grow and develop resilience. We must offer suitable challenges to our students and encourage them to overcome them in style of “everything is possible, when you try hard enough”.

9) Does the encouragement of creativity necessitate one’s involvement in mundane tasks?

I think that creative solutions can occur in mundane tasks as well as elsewhere. They may be small new solutions in everyday problems connected to food-making, furnishing, renovating one’s own home etc. Another issue is solving for example philosophical questions, or scientific problems which have no connection to mundane tasks. They often require disengaging oneself from everyday environment to be able to contemplate solutions in perfect peace.

10) Does creativity need to be productive?

My opinion is that it does not need to be productive. Creativity does not require some touchable or tangible product as a target. The output of creativity can be an idea or a new way of thinking, a philosophical structure or a new way of looking at the world. It could be also a piece of music improvised only once which disappears immediately after playing it with a musical instrument.

11) How does this relate to how we engage with creativity both as educators and as students?

First of all, we should be able to set students questions which do not have only one right answer. But on the other hand, we should encourage students to challenge themselves with difficult questions which require creativity to answer. Finding creative solutions to problems together with students not as teachers, but as peer researchers might be one way of acting. One example of fostering creativity was when one of our music teachers made students create music to TV advertisements which were muted. The results were in many cases much better than the original compositions in the advertisements. The use of smart technology, phones, iPads, computers and all their applications offer a great field or outlook for creativity today. All of our students have some gadget which can be used in creating new options or alternatives. The teachers must be creative all the time to make their students also creative.

12) Does creativity require vulnerability? Or high emotionality?

I don't think that creativity in itself requires vulnerability, but in some cases, it may help in finding creative solutions. When you are vulnerable, your senses may work more delicately which may open doors which usually do not open in your mind. High emotionality is needed when we are dealing with problems between individuals. In such cases, high emotionality helps in sensing the atmosphere and changes it, which may help finding creative solutions in problems which may be mental, spiritual or even intellectual.

13) Can creativity ever be detrimental to the creative individual or their society? Or does it yield positive results at all times?

Creativity cannot be detrimental, but it can be used detrimentally to cause harm to others. If we think about great geniuses like Einstein who used his creativity in developing the theory of relativity or Oppenheimer who developed the atomic bomb, it is difficult to say whether their creative inventions are detrimental, or profitable considering that they can destroy the whole planet Earth. Creative solutions can also be used in bad aims in interaction between people. As a whole, my opinion is that creativity offers more positive results than negative.

14) Does the ethos and values of a society/culture influence how creativity is manifested on the individual level?

If we look at the history of creativity, it is easy to see that in some cultures and in some time eras there have been periods of time when creativity has blossomed strongly; for example the Renaissance in Europe. Some decades ago, Japan was seen as an innovative society as new inventions were brought up frequently.

In Finland, we had a government with Matti Vanhanen as the prime minister, and that government wrote in their government platform that innovation should be the driving force of our competitiveness and economic growth. This shows that there have been plans of reaching an ethos of creativity. Unfortunately, Matti Vanhanen's ideas did not spread widely, so that I could say that they had any kind of impact on any individual level.

But I don't think that it is impossible to reach in right circumstances and when right or prudent or correct decisions are made at the governmental level. Usually, creativity is present in speeches when the elections become close. The politicians then speak loudly about the advances of arts and skills and creativity, but as soon as they are elected, they forget about these and concentrate on economically profitable issues.

Creativity at work is also dependent on the leadership in working places. Leaders can guide the morals to a positive direction. Unfortunately, there are organizations where workers cannot use their creativity or special gifts.

The leader should do whatever is possible to motivate workers to do their best. Most important is to find the significance, meaning and purpose of work. An innovative organization supports creativity and makes the work possible. Still, often creativity is killed or perhaps stifled, in the name of productivity, unity or controlling. The leading politicians and business world's key actors decide which is more important: creative work or compulsive profit making. These decisions have a big impact on the life of families, children and future generations.

15) How does creativity relate to morality? Especially in its Western conception?

There are many ways how creativity is connected to morality. One example is inventing and creating new games. Game-builders use their creativity to build new games which hook players in an addictive manner to spend their money on playing these games. That is when the creativity is used against morals and ethics. These games are planned so that they restrain certain behavior and promote some other kind of behavior. The games have some kind of structural presumptions about what kind of playing should be successful. These are built on values which reflect moral and ethical starting points. For example, the shooting game "Counter Strike" is full of fictional violence and killing which are quite opposite to everyday morals. In this way of thinking both the game creators and players share ethical responsibility of the ethical choices.

Howard Gardner also wrote about "good work" which he defined with three E-letters: Excellence, Engagement and Ethics, meaning that the work must be done as well as we can, we must be engaged to it and remember all of the time that there are ethical issues of which we must be aware.

16) How can mentoring and mentors help with creativity and the development of musical talent?

There are big problems concerning creativity and developing musical talent. These problems mostly concentrate in the relationship between the teacher and the pupil. In Finland, for example there is a good music school and conservatoire system not to mention the Sibelius Academy, which have been able to educate a lot of great musicians, singers and composers. Still, there are a lot of drop outs who have started to hate music and instrument playing, composing, etc.

The traditional music teaching is based on journeyman – master -type teaching and learning where the young student tries to imitate and copy the skills of the master. In this type of learning it is not about mentoring, it is a dictatorial relationship where the master rules everything: the program played, the schedule, the performances: when, what, where etc. The pupil lacks all decision-making opportunities. In addition to this, the traditional master-type teachers often believe that only they have the “right” knowledge and know-how of teaching music. This is an explanation for so many drop outs from Finnish music education.

The music educational associations have tried to turn the direction of teaching towards a socio-constructivist teaching and learning conception, and in some areas they have even succeeded. Still, there are lots of old-school teachers working in music institutes who can't, or will not change their methods towards modern methods including mentoring and cherishing the pupil's creativity and own motivation to make music. Unfortunately, the new teachers tend to teach the same way as they were taught, which keeps the old wheel rolling, and the mistakes repeated again.

17) What have we neglected to ask?

These questions have been very interesting and they have given me a lot to think about. I believe, that it is impossible to change anything without discussing these matters, often in person and in depth. That is why this kind of interviews may be valuable in the way to reaching a better, more creative and joyful life.



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Análisis Estadístico De La Formación Digital A Partir De La Relación De La Desigualdad Ingresos (Coeficiente Gini) Y El Analfabetismo Digital En Ecuador

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Resumen:

El estudio se basa en los efectos provocados por el analfabetismo digital desde la perspectiva de los ingresos, se puede entender en la oportunidad de conseguir un trabajo adecuado que aporte al bienestar de la ciudadanía. Ecuador en comparación con otros países de América Latina y el mundo, presenta una baja conectividad y desarrollo laboral por competencias enfocadas en la práctica de uso de TICs. Por lo consiguiente, esta

investigación tiene como objetivo analizar la relación que existe entre Desigualdad Ingresos (Coeficiente Gini) y el analfabetismo digital (Porcentaje personas) basándose en datos específicos de Ecuador entre los años 2008 – 2019. La metodología aplicada fue un enfoque cuantitativo, con alcance descriptivo y diseño no experimental transeccional. La técnica de recolección de información fue estadística y se aplicó el modelo de regresión lineal simple basado en variables analizadas en los estudios teóricos como los de Katz & Koutroumpis (2012) y de Galperin y Ruzzier (2010). Los resultados fueron que existe suficiente evidencia estadística para demostrar la relación entre la variable dependiente $Y =$ Analfabetismo digital (Porcentaje de personas) y la variable independiente $X =$ Desigualdad Ingresos (Coeficiente Gini) con una significación ANOVA de 0.00%, un $R^2 = 86.3\%$, del cual indica que el modelo tiene un buen ajuste a la variable explicativa, con una sensibilidad de $\beta = 0.438$.

Palabras claves: Analfabetismo digital, Desigualdad de ingresos, TICs, Brecha digital, Competencias laborables.

Statistical Analysis Of Digital Training Based On The Relation of Income Inequality (Gini Coefficient) And Digital Illiteracy in Ecuador

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Abstract:

The study is based on the effects caused by digital illiteracy from the perspective of income, it can be understood in the opportunity to get a suitable job that contributes to the well-being of citizens. Ecuador compared to other countries in Latin America and the world, has low connectivity and job development due to competencies focused on the practice of using ICTs. Therefore, this research aims to analyze the relationship between Income Inequality (Gini Coefficient) and digital illiteracy (Percentage of people) based on specific data from Ecuador between the years 2008 - 2019. The applied methodology was a quantitative approach, with descriptive scope and non-experimental transectional design. The information collection technique was statistical, and the simple linear regression model was applied based on variables analyzed in theoretical studies such as those of Katz & Koutroumpis (2012) and Galperin and Ruzzier (2010). The results were that there is enough statistical evidence to demonstrate the relationship between the dependent variable $Y =$ Digital illiteracy (Percentage of people) and the

independent variable $X = \text{Income Inequality (Gini Coefficient)}$ with an ANOVA significance of 0.00%, an $R^2 = 86.3\%$, of which indicates that the model has a good fit to the explanatory variable, with a sensitivity of $\beta = 0.438$.

Key words: Digital illiteracy, Income inequality, ICTs, Digital divide, Labor skills.

Introducción:

La globalización en el contexto del desarrollo social de la información y el conocimiento ha permitido que la tecnología y el desarrollo económico fluyan en forma vertiginosa en las últimas décadas. Esta evolución ha permitido la innovación creativa en diferentes ámbitos del sector laboral a nivel mundial (Acosta, Yagual, & Coronel, 2018). Así mismo, se describe una frontera que marca el fin de la era industrial y el inicio de la era de la información. Este cambio ha generado nuevos procesos basados en perspectivas estratégicas como la financiera, cliente, procesos internos y aprendizaje, así mismo la creación de nuevas plazas de trabajo traen consigo mano de obra preparada para cumplir con los objetivos desde el punto de vista estratégico empresarial. Sin embargo, tiene incidencia en el sector público y privado (Kaplan & Norton, 1992).

Por tanto, es relevante identificar los factores claves de un ecosistema digital donde las organizaciones dinamizan de forma competitiva aprovechando los adelantos tecnológicos dentro de una red de naturaleza abierta. Tal es el avance que la disrupción tecnológica ha desencadenado en entornos macrosociales como nuevos tipos de empresas, ciudades inteligentes, nuevos empleos, inclusión financiera, entre otros beneficios de la economía digital que involucran todos los sectores de la sociedad (Moreno, González, Torres, & Araya, 2017).

En cuanto a la transformación e importantes cambios de las fuerzas productivas también existen cambios en el conjunto de los factores de producción, abarcando una incidencia en el comercio, consumo y crédito provocando el nacimiento de una nueva división del trabajo a niveles globales. Se inicia un nuevo ciclo industrial, encabezado por el sector electrónico - informático, que empezó a propiciar una lógica diferente de acumulación del capital.

Bajo este contexto, es imprescindible la generación de brechas digitales que manejen y cubran las necesidades de fuerza laboral cualificada para que el actual sistema económico funcione de forma eficiente (Guzmán, Muñoz, Álvarez, & Velázquez, 2014). Por tanto, para que un objetivo estratégico se cristalice es necesario contar con participación del sistema de educación, el gobierno y la empresa de forma conjunta para actuar sobre las

brechas desarrollando entornos de aprendizaje los cuales socialicen contenidos que garanticen la accesibilidad a la tecnología como equipos de cómputo, internet, software y demás herramientas tecnológicas bajo una perspectiva social, económica e incluyente que cubra a todos los participantes de la comunidad.

Tomando como partida las características fundamentales que el acortamiento de la brecha digital es imperante considerar que la alfabetización, ya que esta abarca no solo la capacidad de leer y escribir, también permite ser competitivos por tal razón es una competencia demostrada en el ámbito de las destrezas comunicativas. Esto permite el desarrollo del individuo con características funcionales, de acuerdo con la edad de forma independiente, en la sociedad dinamizando dentro de ella desde un punto de vista laboral. Aprender a interpretar signos y símbolos, es conseguir una forma de conectarse con la realidad mejorando las relaciones sociales en función de cambios y la dinámica social (Bawden, 2002).

Dentro del marco general de la alfabetización, la digitalización es un factor relevante, World Economic Forum (2012) describe esta conexión de acuerdo al coeficiente de correlación, el índice presenta un aumento del 10% en digitalización representando un incremento de 6,4% en la dinámica innovadora, tanto dicha aceleración de la innovación es provocada por la introducción de servicios y aplicaciones proporcionados por las TICs, que adicionan nuevas aplicaciones y servicios (telemedicina, búsqueda en Internet, comercio electrónico, educación a distancia, redes sociales, etc.), como también nuevas formas de comercio e intermediación financiera (Jordán, Galperin, & Pérez, 2013). En consecuencia, determinadas estimaciones, muestran que el aporte económico de la digitalización es significativo (ver tabla1).

Tabla 1.
 América Latina: estimación del impacto económico de la digitalización

País	Indicadores en 2011			Cambio como resultado de un aumento de 10% en el índice de digitalización ^a		
	Índice de digitalización	PIB per cápita ^b (dólares)	Índice de innovación	Índice de digitalización	PIB per cápita ^b (dólares)	Índice de innovación
Argentina	41,32	10 881	34,40	45,45	10 969	36,60
Brasil	36,61	12 594	36,60	40,27	12 696	38,94
Chile	45,33	13 738	42,70	49,86	13 849	45,43
Colombia	38,33	7 121	35,50	42,16	7 179	37,77
Costa Rica	37,33	8 644	36,30	41,06	8 714	38,62
Ecuador	32,75	4 504	28,50	36,03	4 540	30,32
El Salvador	29,56	3 602	29,50	32,52	3 631	31,39
México	37,05	9 980	32,90	40,76	10 061	35,01
Panamá	44,29	8 740	30,90	48,72	8 811	32,88
Paraguay	28,68	3 594	31,60	31,55	3 623	33,62
Perú	32,20	5 860	34,10	35,42	5 907	36,28
Uruguay	42,78	14 294	35,10	47,06	14 410	37,35

Nota: Esta tabla muestra información de (**World Economic Forum, 2012**); (**Katz & Koutroumpis, International Telecommunication Union, 2012**)

Según el Banco Mundial, Ecuador en comparación con otros países de América Latina y el mundo, presenta una baja conectividad, el 43% de la población está conectada a internet (ver tabla 2). Sin embargo, World Economic Forum analiza la relación a las transformaciones 2.0 en congruencia con el progreso de Ecuador en el uso de las tecnologías de la información, bajando 8 posiciones del puesto 108 al 116, de entre 1398 países (Renó, Gosciola, & Renó, 2018).

Tabla 2.
Conectividad por país

Conectividad por país	Porcentaje
Colombia	52,6
Chile	72,4
Bélgica	85
Bolivia	39
Canadá	87
Dinamarca	96
Ecuador	43
España	76,2
Estados Unidos	87
Marruecos	56,8
México	44,4
Senegal	17,7

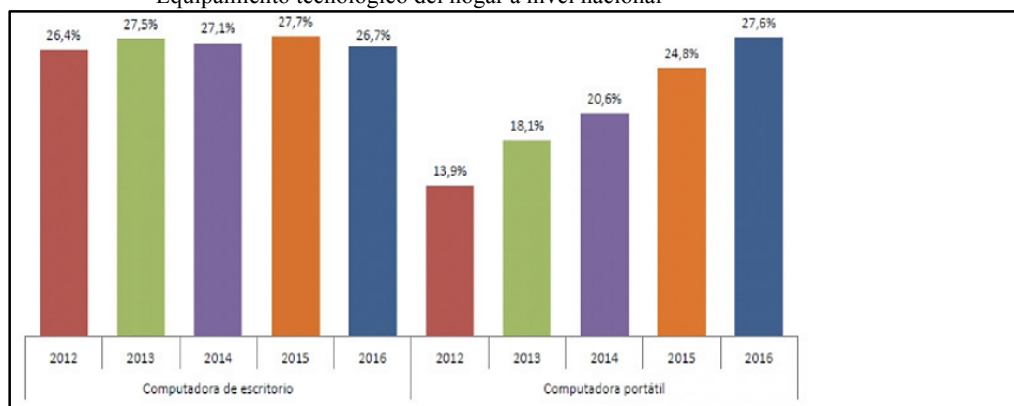
Nota: La tabla toma información de World Economic Forum; (**Renó, Gosciola, & Renó, 2018**)

En Ecuador a pesar de que puede existir implementación de nuevas tecnologías en entornos laborales públicos como privados la brecha a cubrir es alta. El Instituto Nacional de Estadística y Censos (INEC) (2017), describe una relación de principales estadísticas para definir varias brechas que son necesarias cubrir y garantizar la incursión en la Economía Digital. Sin embargo, el INEC ofrece información relevante para analizar la evolución y situación actual de la incidencia tecnológica en los distintos ámbitos socioeconómicos.

La presencia de laptops o computadores portátiles en hogares ecuatorianos durante cinco años aumentó en 13,7 puntos, mientras que las computadoras de escritorio se han mantenido estable con una variación de 0,3 puntos (Ver figura1).

Figura 1.

Equipamiento tecnológico del hogar a nivel nacional

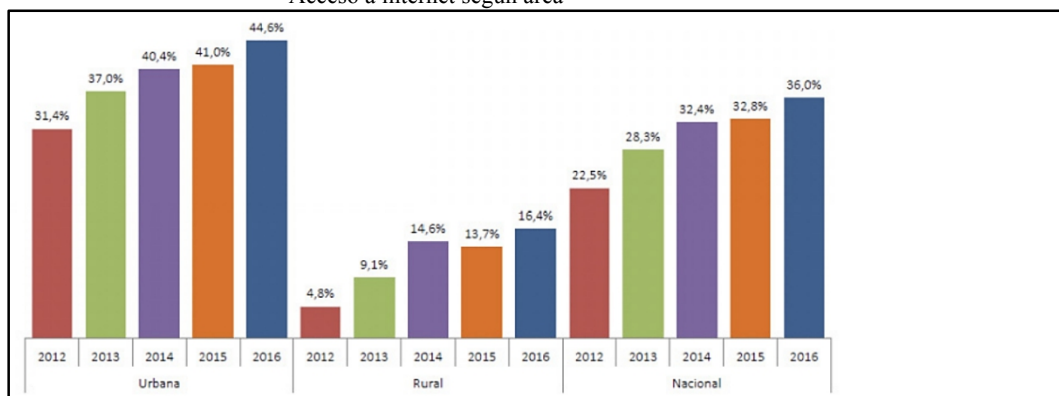


Nota: Información de la Encuesta Nacional de Empleo Desempleo y Subempleo – ENEMDU (2012 – 2016)

Este reporte también señala que el 36,0% de los hogares cuentan con servicio de internet, donde el área urbana tiene mayor participación con un 44,6% en contraste con el área rural que cuenta con una participación menor al crecimiento de unos 11,6 puntos (Ver figura2).

Figura 2.

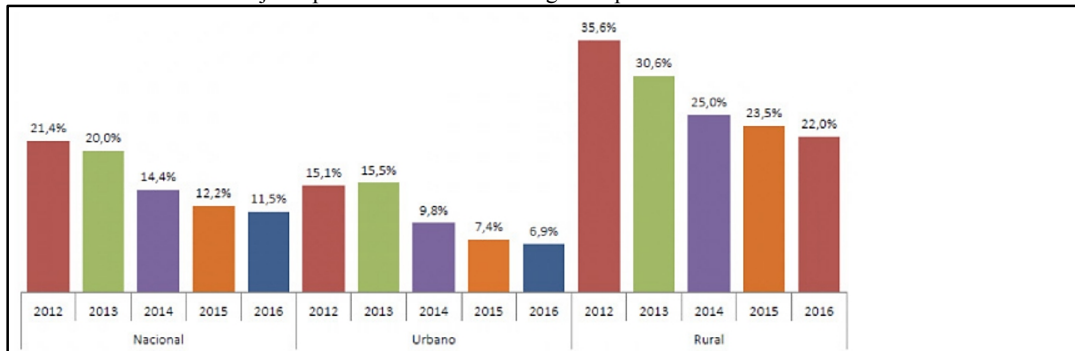
Acceso a internet según área



Nota: Información tomada de la Encuesta Nacional de Empleo Desempleo y Subempleo – ENEMDU (2012 – 2016)

En cuanto al analfabetismo digital el INEC determinó una tendencia decreciente a nivel nacional con una participación de 11,5%, urbano 6,9% y a nivel rural del 22% lo que fundamenta la importancia de un accionar para este tipo de problema que abarca sectores sociales como económicos a nivel nacional (Ver figura3).

Figura 3.
Porcentaje de personas analfabetas digitales por área



Nota: Información tomada de la Encuesta Nacional de Empleo Desempleo y Subempleo – ENEMDU (2012 – 2016)

Las consecuencias del analfabetismo digital desencadena un escaso conocimiento sobre la población nacional en las Tecnologías de Información y Comunicación provocando factores como la exclusión laboral, nivel social y económico preocupante que mantiene latente el subdesarrollo. Proyectos gubernamentales como la instalación de Infocentros han tenido un efecto positivo como la reducción del analfabetismo y brecha digital (Guallo & Guadalupe, 2018).

La capacitación y práctica en constante evolución en entornos virtuales como el uso de aplicaciones informáticas en los dispositivos electrónicos donde el acceso a internet es imperante, elevan la probabilidad de mejorar la calidad de vida en las personas mediante la inclusión social y laboral. Sin embargo, dicho éxito también influyen en las actividades comerciales, económicas, servicios básicos, como el auge del uso de los servicios en línea que las tecnologías informáticas ofrecen permitiendo obtener calidad de servicio y tiempos de respuestas eficientes en las transacciones.

Metodología

El estudio metodológico del presente artículo definirá que tipo de análisis se ejecutará. De acuerdo con Katz y Koutroumpis (2012) donde describe que más allá del impacto del acceso a banda ancha, este estudio se basa en la relación combinada del conjunto de servicios y aplicaciones posibilitados por la banda ancha; siguiendo el argumento de asequibilidad planteado por Galperin y Ruzzier (2010) determina al tercer factor explicativo de la brecha de demanda digital, que es el económico. Para ello, el desarrollo del concepto de digitalización que define la capacidad de utilizar tecnologías digitales para generar, procesar y compartir información está relacionado con el enfoque de penetración de la tecnología como el uso

de aplicaciones y el consumo de contenidos en tres niveles: i) individuos, empresas y gobierno, ii) procesos de producción de bienes y servicios y iii) provisión de servicios públicos.

Por lo tanto, mediante un enfoque cuantitativo del cual se pretende determinar un alcance descriptivo, inferencial y correlacional basado en un diseño no experimental transeccional en los periodos desde el 2008 hasta el 2019 cuyas variables a relacionar son la tasa nacional de personas analfabetas digitales y la desigualdad por ingresos por medio del coeficiente de Gini, este método estadístico no paramétrico se aplica para detectar relaciones causales donde los datos utilizados se los evalúa a través de la regresión lineal simple.

La investigación propuesta relaciona el método de investigación empírica y la epistemología correspondiente propuesta por Figueroa (2012, p. 109) donde aparte de la fundamentación teórica también posee base de datos que permitan la validación de variables. La epistemología aplicada es la Popperiana, con su respectivo análisis cuantitativo alineado con el objetivo de investigación explicativo. La aplicación de la prueba estadística β como prueba empírica.

Identificación de las variables

X: Desigualdad Ingresos (Coeficiente Gini)

Y: Analfabetismo digital (Porcentaje personas)

Tabla 3.

Matriz de variables

Descripción	Tipo de variable	Causalidad
Analfabetismo digital	Endógena	
Desigualdad por ingresos	Exógena	(-)

Técnica estadística

Población

La población de estudio considerada por la encuesta tecnológica por el INEC (2020) y la Encuesta Nacional de Empleo, Desempleo y Subempleo (ENEMDU, 2019), los periodos a considerar desde el 2008 hasta el 2019.

Donde los datos fueron ajustados en N=12.

Tabla 4.
 Variables

Año	Porcentaje de personas analfabetas digitales	Desigualdad de ingresos coeficiente de Gini
2008	32,42	0,551
2009	33,60	0,515
2010	29,22	0,504
2011	25,14	0,505
2012	21,38	0,473
2013	20,04	0,477
2014	14,43	0,485
2015	12,22	0,467
2016	11,45	0,476
2017	10,48	0,466
2018	10,68	0,459
2019	11,39	0,478

Fuente: (INEC, 2020); (ENEMDU, 2019)

Muestra

En función de la limitación de la información se consideró trabajar con toda la población, por lo tanto, no se aplicó ningún tipo de muestreo. Se procedió a tomar todos los datos como población.

Prueba estadística utilizada

Como en este caso de estudio se determinaron una variable exógena y una endógena, por lo que la metodología propuesta denota la aplicación de la regresión lineal simple, estableciendo una prueba de hipótesis que permita someter la misma al proceso de falsación.

Supuestos considerados

a. Con respecto al modelo de regresión lineal simple:

$$Y = F(X)$$

$$Y = \beta_0 + \beta_1 X$$

b. Con respecto a las varianzas: varianzas iguales (condición de homocedasticidad)

Hipótesis propuesta

Hipótesis Nula

$H_0: \beta = 0$, “Un aumento en el analfabetismo digital no incide en la desigualdad por ingresos”

Hipótesis Alternativa

$H_1: \beta \neq 0$, “Un aumento en el analfabetismo digital, incide en la desigualdad por ingresos”

Criterios de decisión

Si el p-value < 0.05; rechazar Ho, si el p-value > 0.05; aceptar Ho

RESULTADOS

Mediante el uso del software IBM SPSS Statistics 22, se procedió a realizar el modelo de Regresión Lineal Simple del cual se obtuvo una sensibilidad de $\beta = 0.438$.

En primera instancia se realizó el análisis descriptivo de las dos variables propuestas en la presente investigación.

Tabla 5.
 Estadísticos descriptivos

Variables	Media	Desviación estándar	N
Analfabetismo digital (Porcentaje de personas)	19.37	8.86	12
Desigualdad en los Ingresos (Coeficiente de Gini)	0.48	0.026	12

De acuerdo a la Tabla 5 se observa que, de los 12 años analizados, la media del porcentaje del Analfabetismo digital es 19.37 y una desviación de 8.86 y la media del coeficiente de Gini en la Desigualdad de ingresos es de 0.48 y la desviación de 0.026.

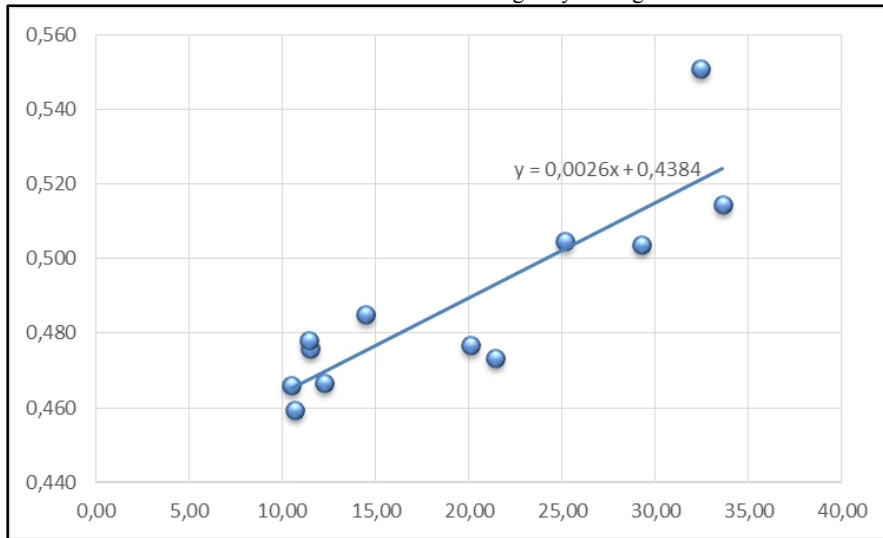
Tabla 6.
 Coeficientes Modelo de Regresión Lineal Simple

Modelo	Coeficientes no estandarizados		Coeficientes tipificados	T	Sig.
	B	Error típ.	Beta		
(Constante)	,438	,010		43,687	,000
Desigualdad en los Ingresos (Coeficiente Gini)	,003	,000	,863	5,394	,000

Nota: Variable dependiente: Analfabetismo digital

De acuerdo con la Tabla 6 se observa que la constante del modelo es $\beta = 0.438$, la variable independiente tiene un p-value < 0.05, lo cual quiere decir que esta variable explica a la variable dependiente.

Figura 4.
Relación entre analfabetismo digital y los ingresos



Nota: Resultados utilizando SPSS – IBM

Como se puede observar en la Figura 4 los puntos de dispersión se encuentran cerca a la recta, por lo tanto se demuestra que los datos no están muy dispersos con respecto a su media.

Ecuación del Modelo de Regresión Lineal Simple

$$Y = 0.438 + 0.03x$$

De acuerdo con el modelo propuesto se interpreta de la siguiente manera:
Por un aumento en el analfabetismo digital (Porcentaje de personas) incrementaría en 0.03 la desigualdad en los ingresos.

El p-value de la regresión lineal simple es igual a 0.00, error, tomando en consideración un nivel de significancia fijado (5%); por lo tanto, se rechaza la hipótesis nula de $\beta = 0$ y se acepta la hipótesis alternativa que $\beta \neq 0$, lo que implica que existe relación estadística.

Correlación de las Variables

Tabla 7.
 Correlación

Variables	Analfabetismo digital (Porcentaje de personas)	Desigualdad en los Ingresos (coeficiente Gini)
Analfabetismo digital (Porcentaje de personas)	1	0.863**
Desigualdad en los Ingresos (coeficiente Gini)	0.863**	1

Nota: **. La correlación es significativa en el nivel 0,01 (2 colas).

Se observa que el coeficiente de correlación es 0.863, con una significancia de 0.01. De acuerdo al análisis de los valores de Pearson van de -1 a 1, siendo 0 el indicador de que no existe correlación, se determina que entre estas dos variables existe una correlación alta ya que no es cero, sino que se inclina al 1. La dirección de la correlación es positiva, es decir es directa, por lo tanto al aumentar el Analfabetismo digital, aumentaría la desigualdad en los Ingresos.

A continuación, se muestra el ajuste del modelo utilizando como criterio el porcentaje de variación R^2 que es igual a 86.3%, que está cerca al 1, esto quiere decir que es alto, por ende, la variable dependiente es explicada por la variable independiente.

Tabla 8.
 Resumen del modelo

Modelo	R	R cuadrado	R cuadrado corregida	Error típ. de la estimación	Durbin- Watson
1	,863 ^a	,744	,719	,01395	1,742

Nota: a. Variables predictoras: (Desigualdad Ingresos), b. Variable dependiente: Analfabetismo digital
 Luego se procedió a analizar el nivel de significancia por medio de ANOVA, y observar si existe relación entre la variable dependiente Y= Analfabetismo digital (Porcentaje personas) y la variable independiente X= Ingresos (Coeficiente GINI).

Tabla 9.
 ANOVA

Modelo	Suma de cuadrados	Gl	Media cuadrática	F	Sig.
Regresión	,006	1	,006	29,100	,000 ^b
Residual	,002	10	,000		
Total	,008	11			

Nota: a. Variable dependiente: Analfabetismo digital (Porcentaje personas)

Como se puede observar en la Tabla 9 la significancia de la ANOVA es 0.00%, esto significa que las dos variables están relacionadas y por tanto hay diferencias significativa entre los grupos.

Conclusión

Las barreras que existen en la formación digital a partir del analfabetismo digital determinan la desigualdad de posibilidades de acceso a la información y al conocimiento, sin embargo, no es sólo una perspectiva tecnológica, debido a que también son necesarios considerar factores socioeconómicos tales como: la capacidad de adquirir equipos de cómputo, infraestructuras tecnológicas y la formación. Así mismo, se confirma desde un punto de vista teórico-conceptual que la brecha digital no genera efectos directos o unidireccional en el desarrollo de riqueza, oportunidades y bienestar, sino que, además incide de forma negativa en la disminución de pobreza y la exclusión social. En consecuencia, se podría considerar como un alto riesgo para la sociedad de la información y paralelamente en el distanciamiento de la brecha entre pobres y ricos.

Estos efectos a nivel de equipamiento e infraestructura tecnológica en Ecuador en relación con la formación digital, se debe en gran medida, como efecto de desigualdades socioeconómicas, debido a la incidencia en grupos desfavorecidos, transformándose en desventaja para el desarrollo de una transformación tecnológica, así mismo, disminuye las oportunidades sociales y económicas. Esto quiere decir que, a nivel regional si se valora la brecha digital entre países, se observa que la brecha digital incide en el desarrollo o el retraso económico de un país.

Como recomendación para nuevas investigaciones, se debe analizar también la exclusión social enlazada a las nuevas tecnologías. Debido a que conlleva a nuevos escenarios complejos en materia de desintegración social, además del acceso a las nuevas tecnologías o el no acceso a la información, identificada como una exclusión o marginación institucional, como efectos podrían llegar a no acceder a nuevas formas de consumo y comunicación o a servicios públicos básicos.

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Anexos

Anexo #1 Desigualdad por ingresos – Coeficiente de GINI (INEC)



Período		Índice de Gini
Junio	2007 ⁽¹⁾	-
	2008	0,525
	2009 ⁽¹⁾	-
	2010	0,519
	2011	0,497
	2012	0,471
	2013	0,463
	2014	0,486
	2015	0,459
	2016	0,465
Diciembre	2017	0,462
	2007	0,551
	2008	0,515
	2009	0,504
	2010	0,505
	2011	0,473
	2012	0,477
	2013	0,485
	2014	0,467
	2015	0,476
2016	0,466	
2017	0,459	

Fuente: Encuesta Nacional de Empleo, Desempleo y Subempleo - ENEMDU.

Notas: (1) La información en junio 2007 y junio 2009 solo fue representativa a nivel urbano.

Anexo #2 Porcentaje de personas analfabetas digitales (INEC)

CADA HECHO DE TU VIDA Cuenta





CONTENIDO

Porcentaje de personas analfabetas digitales

Periodo	Nacional	Área	Urbana	Rural	Sexo	Hombre	Mujer
dic-08	32,42		22,95	53,81		28,61	35,95
dic-09	33,60		25,34	52,32		30,23	36,81
dic-10	29,22		20,83	48,02		26,28	32,07
dic-11	25,14		17,68	42,37		22,17	27,91
dic-12	21,38		15,07	35,62		18,97	23,70
dic-13	20,04		15,47	30,57		18,13	21,89
dic-14	14,43		9,80	25,01		12,02	16,70
dic-15	12,22		7,39	23,48		10,09	14,24
dic-16	11,45		6,85	21,99		9,37	13,45
dic-17	10,48		5,99	21,24		8,92	11,96
dic-18	10,68		7,17	18,98		9,61	11,72
dic-19	11,39		7,80	20,05		10,63	12,13

Fuente: Encuesta Nacional Multipropósito de Hogares, diciembre 2018 y 2019.

Elaboración: Instituto Nacional de Estadística y Censos - INEC

Notas:

- Las cifras anteriores al 2018 son fuente: Encuesta Nacional de Empleo, Desempleo y Subempleo (ENEMDU).
- Se considera **Analfabeta Digital** a una persona de 15 a 49 años cuando cumple simultáneamente tres características: 1) No tiene celular activado 2) En los últimos 12 meses no ha utilizado computadora 3) En los últimos 12 meses no ha utilizado Internet.
- **Población de referencia:** La población en edad 15 a 49 años
- Los datos se presentan en puntos porcentuales



Healthcare Organizations and Enterprise Architecture: A Case Study in Canada

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Abstract:

The paper focuses on exploring the perceptions of stakeholders (medical doctors, nurses, pharmacists, IT staff and other employees) in healthcare organizations in Canada on how they developed Enterprise Architecture (EA) to improve managerial decision making and align business activities and Information Technology (IT). Both quantitative and qualitative methods were adopted for this research. A total of 120 questionnaires were sent out but only 72 responses were received. Participants included industry professionals involved in implementing information systems (IS) within healthcare organizations. Data was collected physically and through emails. Also 3 subject matter experts (experts) were interviewed for the study. These experts each have over ten years' experience in EA practice and are doctorate degree holders (PhDs). The results of the study showed that stakeholders see the potential for EA to be a tool for planning IT/IS projects, breaking down organizational silos, creating digital transformation, and proactively responding to disruptive forces. They do not see EA as the necessary tool for integrating IT solutions.

Keywords: Enterprise Architecture (EA), Enterprise Architecture Management (EAM), Information System (IS), Information Technology (IT), Healthcare Organizations

Introduction:

Enterprise Architecture (EA) is a practice and emerging field that aims to improve the management and functioning of complex healthcare enterprises and their information systems (IS) (Saint-Louis et al., 2019). Its purpose is to ensure successful business structures or business-IT alignment and manage required organizational transformation (Gerber et al., 2020). The field of EA has the potential to offer significant insights and technologies to help organizations address the “Grand Challenges” of the future (Ilin et al., 2018). EA fundamentally adopts a systems perspective to describe the essential elements of a socio-technical organization and their relationships to each other and to the environment in order to understand complexity and manage change (Gerber et al., 2020). EA modelling has become decisive to achieve models that accurately represent behaviour and assets of companies and lead them to make appropriate business decisions (Pérez-Castillo et al., 2020). The main goals of EA adoption in healthcare organizations are to achieve: (1) interoperability through standardisation, consolidation and effective management of complexities; (2) governance and (3) business and IT strategy alignment (Jonagaddala et al., 2020). However, even in countries with advanced levels of healthcare practice supported by electronic processes and communication (eHealth), there are interoperability challenges because of different models of governance adopted by the organizations (Saripalle, 2019).

Many healthcare organizations have attempted to deal with their ensuing organizational complexity by adopting industry-recognized practices such as EA. Although it may not be very straightforward on how EA will help healthcare enterprises face realities of the future, there are some suggestions as to how this can be achieved (Masuda et al., 2021). EA can be a practical tool to increase the management power on IT of any organization, and there is a weakness in designing qualitative models of EA and qualitative metrics of EA (Timm et al., 2017). Some of the criticism against EA management (EAM) is that it requires a lot of effort (Kotusev, 2018) and that the benefits thereof are not directly measurable and are realized with some time lag (Plessius et al., 2018). It is difficult to discover or formulate special Critical Success Factors (CSFs) for adopting the EA metamodel in the health sector (Júnior et al., 2020).

The purpose of this multiple case study is to explore the perceptions of stakeholders (medical doctors, nurses, pharmacists, IT staff and other

employees) in a healthcare organization in Canada on how they developed their own model of EA to improve managerial decision making, and align business activities and IT within the enterprise. The specific objective of the study is to build an effective model of EA for a healthcare organization in Canada that really meets its strategic vision and improves its productivity. Basically, there are two main questions in this research:

RQ1: What are the perceptions of stakeholders in a healthcare organization in Canada on how they developed their own model of EA to improve managerial decision making?

RQ2: What are the perceptions of stakeholders in a healthcare organization in Canada on how they developed their own model of EA to align business activities and IT within the enterprise?

The findings of this study will be of benefit to society considering that EA plays an important role in healthcare organizations and helps to improve services provided to patients. The study will also show how healthcare centers should be organized in terms of business architecture, IS architecture, and technology architecture in order to deliver the best quality of services to people. Furthermore, this research will contribute to understanding the most common mistakes the managers of healthcare organizations make in their strategic decisions when investing in IS and technology. As healthcare delivery is a huge item of expenditure by governments around the world (Mcintyre et al., 2017), the findings of this study will contribute to identifying key cost optimization factors in IT delivery in healthcare organizations. It will also provide a customized approach to manage integration of IT systems and their interoperability within healthcare organizations.

Literature Review

This section consists of a literature review of *Enterprise Architecture* as it is viewed and applied through diverse aspects of organization management. Based on scholarly papers, it includes the current knowledge, substantive findings, as well as theoretical and methodological contributions from scholars related to the concept of *Enterprise Architecture*. The literature review section is divided into six sub-sections, namely: 1) *Enterprise Architecture and Healthcare Organizational Complexity*, 2) *Enterprise Architecture and Business Strategy*, 3) *Enterprise Architecture and IS/IT Management*, 4) *Enterprise Architecture and Corporate Governance*, 5) *Enterprise Architecture and performance management*, 6) *Enterprise Architecture and Business Process management*.

Enterprise Architecture and Healthcare Organizational Complexity

This sub-section of the literature review described organizations through their components that make them more complex over time. It pointed out multiple dimensions and key factors that characterize organizations and how they affect the level of complexity (Ridgely et al., 2019; Tsoukas, 2017; Kernick, 2018). The management of organization requires a systemic and holistic approach, considering all factors (internal and external) influencing the functioning of the organizations. Some studies, including Ridgely et al. (2019), paid particular attention to such complexity as it affects healthcare organizations. The sensitivity of the sector brings more complexity in managing the healthcare organizations than any other business sector. Indeed, healthcare organizations are highly specialized and have a multiple division of services leading to complexity. Scholars and researchers such as Patri and Suresh (2017), Bokhour et al. (2018), and Wager et al. (2017) conducted research studies whose results clearly demonstrated the deep complexity of healthcare organizations. Therefore, these authors pointed out the following factors that characterize the complexity of such a sector: *IS, Processes management, a lack of leadership and clear goal, organization size, bureaucratic rules, priority definition, a lack of holistic approach in management, interactions between various stakeholders internal & external (patients and providers, providers and others providers, providers and insurers suppliers and providers)*. The high degree of division of labor and specialization in healthcare are grounds IS appeared frequently as one of the critical components complexifying healthcare organizations. Although a lot of effort and money have been spent to support IS within organizations, it remains that the results are still so far below what are expected.

In other to overcome organizational complexity as it affects IS, some studies recommends that healthcare organizations should have the following; interoperable IS (Leal, Guédria, & Panetto, 2019); competent human resources, support and commitment from top management (Hernandez et al., 2018); develop a framework allowing the interconnection of entities and actors to work with a right integrated IS (Guha, & Kumar, 2018); motivation of stakeholders involved in developing IS and a framework for managing the implementation of IS projects (Hwabamungu et al., 2018). In fact, as Alotaibi and Liu (2017) mentioned, there are, sometimes, misalignment between relevant business requirements content and IS architectural solution, thereby lowering its quality. In that case, finding ways to align IS with organization objectives and strategies remains a solution to address the complexity of organizations (Alotaibi & Liu, 2017).

Researchers such as Saint-Louis et al. (2019); Dang and Pekkola (2017); Foorthuis et al. (2020); Banaeianjahromi and Smolander (2019); and Szabó and Öri (2017) led studies whose findings showed the importance of EA in supporting organizations in addressing complexity if EA is involved in the process of managing organization. These scholars established that organizations must develop models of EA frameworks in line with their business context to gain the maximum benefit of EA as a tool for addressing complexity. In effect, EA provides organizations with holistic specification about the strategy, key activities, information and organizational technologies, and functions and their effects on business processes (Timm et al., 2017).

EA and Business Strategy

This sub-section of the literature review is focused on the concept of business strategy and its importance towards having a successful business. It also addressed the point of using EA for supporting business strategy in organizations in general (Kitsios & Kamariotou, 2019; Bhattacharya, 2018) with a special focus on healthcare organizations. It begins by identifying the origin of the strategy concept, which was demonstrated by some researchers such as Paley (2019) and McKiernan (2017). The origin of strategy is also far more than the origin of competition. Strategy began because of the competitive environment. Competition precedes strategy. As the competition exists within an environment, actors operating in that environment develop strategies to take advantages over competitors. Researchers such as Latham (2017) highlighted how strategy is fundamental for any organization. Strategy helps the organization to define how business will be conducted and proactively act on levers that will help organization to take advantage over its competitors and for sustainable development.

As much as strategy is important to the survival of organizations, implementing a robust strategy within organizations remains a challenging process. Challenges of implementing strategy in organizations have been highlighted by Kabeyi (2019) and Rani (2019). Among the challenges facing organizations for implementing strategy, the authors revealed the lack of communication, the lack of understanding for overall aims and direction, and the lack of support. They also pointed out inadequate funding, untimely disbursement of resources, staff resistance to change, and lack of skills for those in charge to implement the strategy. Healthcare sector, in addition to the prior challenges, has other specific challenges in implementing strategy as pointed out by Obeidat et al. (2017) and Pickup et al. (2018). Those challenges are related to national policies and a health system adapted to

context. They also noted the rigidity of guidelines, the high turnover of human resources, and the lack of competencies among health workers.

Prior researches have been conducted to find solutions to overcome challenges in implementing strategy and the added value of EA in supporting the definition and implementation of strategy. Greer et al. (2017) and Kitsios and Kamariotou (2017) have put emphasis on leadership, transparency, and the development of IS as support for implementing strategy. They also pointed out the fact that organizations should rethink the framework of defining and implementing business strategy considering the reality of the environment based on the influence of new IS on strategy. EA can be a vital means to align the required changes in corporate strategy and business processes with an increasingly complex IT landscape. EA helps to have a holistic approach and help managers to transform the strategy from perspective theory to implementation. In essence, EA helps to understand and deliver corporate objectives and business requirements and to communicate and develop solutions for the institution across the entire institution.

EA and IS/IT Management

This sub-section is essentially focused on IS within organizations and the support of EA in the ecosystem of digital transformation of organizations (Kasemsap, 2018; Banaeianjahromi & Smolander, 2019; Gampfer et al., 2018). Information system is an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products (Zwass, 2020). As cited by Laudon and Laudon (2020, p. 48) and recalled by Knauer et al. (2020), IS is also defined as “a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision making and control in an organization”. IS is distinct from IT. In contrast to IS, IT involves hardware, software, services, and supporting infrastructure to manage and deliver information. It involves any technology that can be used to manipulate information, whereas IS focuses primarily on information and all of the equipment, processes, and people involved in the dissemination of information within an organization. The importance of IS and IT within organizations cannot be overemphasized. Various studies including Gorkhali and Xu (2017); Kasemsap (2018); Aceto et al. (2018); and Ross and Venkatesh (2016) demonstrated how important both concepts are for organizations today and in the future. They all agree that organizations today rely heavily on IS as it participates in the performance and the competitiveness of organizations. IS also helps to increase legibility, reduce medical errors, shrink costs, and boost the overall quality of healthcare (Aceto et al., 2018; Ahmadi et al., 2017; Esfahani et al., 2018).

IS in organisation must be well managed to provide expected results. Harlie et al. (2019) and Sanchez and Terlizzi (2017) published articles showing that the success of an IS depends on how it is managed. However, managing IS involves many constraints that often lead to failure of implementing IS, hence producing important consequences. Islam, Poly, and Li (2018); Lagsten and Andersson (2018); Neto et al. (2017); and See et al. (2018) published articles which addressed challenges related to IS in organization, and more precisely in healthcare organizations. Among the challenges, they revealed the end-user's resistance to change, the complexity of the environment, the poor managerial practice because of lack of training, and lack of a robust analysis. As solutions to overcome those challenges and help to improve the management of IS, Olsen (2017), Sligo et al. (2017), and Müller and Buchkremer (2018) revealed the capabilities of leveraging EA within organizations. According to these authors, EA provides standards and framework which foster success in IS Management. It helps to educate stakeholders and show to business owners and decision makers the role and nature of information as a resource in the organization. Although they agree on the potential of EA to address challenges of managing IS, some of them highlighted the challenges related to implementation of EA itself (Olsen, 2017; Lauvrak et al., 2017; Banaeianjahromi & Smolander, 2019).

EA and Corporate Governance

This subsection focused on the concept of governance in organizations and its derivative elements (corporate governance, international governance, national governance and local governance, and IT governance) as they are applied and used by actors in organizations (Abunadi, 2019; Tanaka et al., 2018; Rahimi et al., 2017; Du Plessis et al., 2018). The concept originated from the need for countries to have a framework including the norms, values, and rules of the game for managing public affairs with transparency and objectivity, and including the participation of all actors. Some researchers have devoted time not only to define the particularity of corporate governance but also to see what makes it different from other derivative terms of governance and its importance in the context of business management (Andrew MacDougall et al., 2017; Shanks et al., 2018; Pillai & Al-Malkawi, 2018). Corporate governance has a direct impact on business performance and drives business strategy.

The importance of corporate governance is translated by its capability to provide a business environment that does not suffer from any contestation, and a business environment that offers a certain credibility to stakeholders and shareholders. All organizations including healthcare organizations must develop a culture of corporate governance. This is particularly important as organizations are facing more competitiveness today than ever before because of globalization and new technologies. Some studies also revealed

the relationship between corporate governance and business management (Madhani, 2017; Saidat et al., 2019; Herdjiono & Sari, 2017). Governance defines management, and the concepts of management cannot be applied without governance. Studies by Lipunga et al. (2019) and Reddy et al. (2020) also put an emphasis on the governance of healthcare organizations, highlighting the fundamental relationship between corporate governance and the performance of healthcare organizations. According to the authors, having good governance helps to deliver health services with efficiency irrespective of the size of the healthcare organization and the resources allocated. The success of healthcare organizations depends on a governance framework developed by decision makers.

Technology represents an important part of corporate governance. In fact, the functioning of organizations today highly depends on technology and IS. Hence, corporate governance cannot be separated from technology and IS. Some researchers also highlighted the importance of IT governance and the effort and resources spent by organizations (including healthcare organizations) to sustain it (Nugroho, 2017; Juiz et al., 2017). As Corporate governance and IT governance are very useful for organizations, some studies have identified EA as an essential instrument for supporting governance (Kotusev, 2017; Shanks et al., 2018). EA complements Business Rule Management and IT governance. EA brings an efficient framework for supporting governance and delivers the necessary information for a sustainable governance.

EA and Performance Management

This subsection focused on performance management within organizations, including healthcare organizations, and how performance management can be approached from EA's point of view (Hazen et al., 2017; Ahlemann et al., 2021). It pointed out the fact that performance within organizations involves the comparison between two aspects (objective against realization). Performance management consists of evaluating what was supposed to be achieved compared to what has been achieved (Aguinis, 2019; Ashdown, 2018; Dimitropoulos, 2017). There are various synonyms of performance management; organizational effectiveness, organizational efficiency, and organizational alignment. Studies have established the correlation between performance management and the growth, effectiveness, and efficiency of an organization (Smith & Bititci, 2017; Sardo & Serrasqueiro, 2017; Saridakis et al., 2017).

Adopting an EA framework will help organizations to develop the performance management initiatives that are in line with the business objectives and strategy (Shanks et al., 2018; Jusuf & Kurnia, 2017). EA is an

instrument that has the real potential to improve performance within organizations and help to achieve better results from IS. EA helps to cover necessary aspects of business performance involving the responsibility for IT investments, the leverage of time as a value, the long term alignment that will help to maintain a good trend of performance, the coordination of investments in IS with changes in business processes, avoiding to spend money to systems that do not provide real value or return on investment to the company.

EA and Business Process Management

This part of the literature review detailed the concept of the business process within organizations and how important it is when taking a systemic approach to manage organizations in the right way. There is alignment between the business process and other components within organizations such as IS/IT assets, business objectives, business strategy, and so on. The management of business processes cannot be separated from the other elements of the organization. A systemic approach of management is needed in order to align and perform business processes and get expected results. So, companies need to have a tool or an instrument that fosters this kind of management and a holistic view of the organization.

In the context of organization, technologies exist for supporting processes. In addition, some researchers argue that the Business Process Management (BPM) is a concept used to establish the link between IT and business processes and the healthcare sector is no exception (Laurenza et al., 2018; Lombardi, 2019). The healthcare business processes are very critical as they are related to human lives. It is therefore imperative to define the best way for managing, improving efficiency and aligning the processes with not only technology but also with other components that constitute the whole organization.

Research Methodology

The research design involved the utilization of both quantitative and qualitative research methods in addressing the research questions. The methodology entailed examination of the perceptions of participants who had been actors in the development of IS within healthcare organizations or had been using technologies in their daily work within their respective organizations. The mixed methods research was appropriate because it allowed us to better understand the perceptions of the researcher participants by comparing the questionnaire responses to the opinion of subject matter experts. The mixed method brings the advantage of helping to minimize errors that may occur as a result of using only the qualitative or quantitative

method while maximizing the advantages of each method (Almeida, 2018). The qualitative dimension of the methodology was appropriate because, as Hammarberg et al. (2016) noted, “qualitative methods are used to answer questions about experience, meaning and perspective, most often from the standpoint of the participant”. Quantitative research, on the other hand, deals with data that are numerical or that can be converted into numbers (Sheard, 2018). This data can subsequently be summarized and analyzed using mathematical operations (Walliman, 2017) and further presented in ways that are both clear and persuasive.

By exploring the perceptions of individuals who have had experiences with IS and technology projects within healthcare centers, it was possible to obtain “multiple perspectives” that further our understanding of EA as perceived within healthcare organizations. Each individual identifies certain characteristics and attributes in a given situation. This study was designed to gain an understanding of these variations in the interpretation of EA.

Qualitative researchers have made significant contributions to health services and policy (HSP) research (Chafe, 2017). Qualitative research is particularly appropriate when the objective is to determine the meaning of a phenomenon through description and to develop concepts that help in the understanding of natural phenomena with an emphasis on the experiences, meaning, and views of the participant (Bradshaw et al., 2017; Aspers & Corte, 2019). The research question (see appendix 1 below for the questionnaire used for the research) for this study centered on the perceptions of stakeholders in healthcare organizations in Canada on models of EA to improve managerial decision making and their own model to align business activities and IT within the enterprise.

Methodology in Brief

Table below summarizes the main steps we followed:

o	Tasks
	Defined 6 research statements to be tested
	Set-up a Questionnaire with 21 logical questions (<i>2 optional questions & 19 mandatory questions</i>)
	Tested content of questionnaire by meeting 2 healthcare professionals
	Adjusted questionnaire based on the remarks and feedback of the 2 healthcare professionals

	Sent out the questionnaire to 100+ professionals in over 30 different healthcare organizations in Canada. The simple random sampling approach was adopted.
	Obtained consent of study participants and ensured data privacy and confidentiality
	72 participants responded to the questionnaire. Based on the research topic, population, aim of this research and analysis techniques adopted for this research, the researchers believe that the sample size used for this study is appropriate (Rahi, 2017).
	Compiled all response data in a single Excel file and analyzed it by using statistical tool (R software)
	Matched Research statements with related questions
0	Analyzed questionnaire responses
1	Interviewed 3 Experts with background in EA. The experts were carefully selected, using purposive sampling approach, as they have extensive knowledge of the subject of EA. The selection of the 3 experts is appropriate in terms of size as it gives the researchers enough time to conduct in-depth interview with the participants. Hence, there is a clear rationale for this and it fulfilled specific purpose with respect to the research questions (Cleary et al., 2014).
2	Compared the outcome of questionnaire responses with Experts' opinion

Data Analysis and Findings

The tool used for analyzing data is R software, which is a statistical tool, supporting both quantitative and qualitative data analysis. Questionnaire responses were transformed into a dataset and ingested into the R environment. To facilitate data ingestion into the software environment and for a better processing of the data, header of dataset, which corresponds to specific questions, has been coded as Q_x (with x taking a value from 1 to 20) as follows, and aligned with the configuration of the questionnaire:

Q1: Name of your organization (optional)

Q2: Name of respondent (optional)

Q3: College degree or certification in IT/IS area

Q4: Years of Experience in healthcare: (0-2, 3-6, 6-10, 11 or more.)

Q5: Years of Experience with IT/IS projects: 0-2 3-6 6-10 11 or more.

Q6: EA should be used as a tool of planning in IT/IS projects.

Q7: A primary goal of EA in IT/IS projects is to improve the well-being of the patient population.

Q8: A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.

Q9: A primary goal of EA in IT/IS projects is to reduce the costs of healthcare activities.

Q10: IT/IS projects supporting the treatment of critical diseases, such as cancer, should have a higher priority than projects to support simple injuries.

Q11: Each IT/IS project in EA document should demonstrate its integration with other existing solutions.

Q12: An IT/IS project with no interaction on existing solutions should be excluded in an EA document.

Q13: An IT/IS project with interactions on existing solutions should be included in EA document even if it has a limited impact on service quality.

Q14: EA is a tool that can help break down administrative silos within an organization.

Q15: EA is a tool that can help create synergy between managers of different departments in an organization.

Q16: EA encourages department heads to compete intensely to be the owners of business processes in IT/IS projects.

Q17: Stakeholders without IT/IS background often do not support EA in IT/IS projects.

Q18: EA should identify and analyze the execution of change toward desired business vision and outcomes.

Q19: EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes.

Q20: Stakeholders with IT/IS background often encourage EA in IT/IS projects.

As each column represents a variable of dataset, the approach was to analyze each variable at a time (univariate analysis), and then the correlation between variables (multivariate analysis). The picture below is for setting the software work environment, installing libraries, and loading the dataset for analysis.


```

C:/DossierStalle/DataScience/IA_DataAnalysis - RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
app.R x app.R x prog1.R x
Source on Save
1 install.packages("dplyr")
2 library(dplyr)
3 setwd("C:/DossierStalle/DBA")
4 dataf <- read.csv("result.csv", header = TRUE, sep = ";")
5 dataf <- select(dataf, -c(X.X.1, X.X.2, X.X.3, X.X.4))
    
```

A quick summary of Q1 variable (as per the figure below) shows that respondents have been working in healthcare services in various areas. Among the 72 people interviewed, 23 representing 32% respondents have been working in Hospitals as physicians, or healthcare professional or administrative staff, and 30 (42%) working as pharmacists. The rest of the respondents also have been working in other medical or paramedical professions.

```

> summary(dataf$Q1)
AUDIOLOGIST      CLINICS      DENTIST  DENTUROLOGIST  ergotherapist      HOSPITAL
1                3                5                1                1                23
LABORATORY  MASSOTHERAPY  OPTOMETRIST  OPTOMETRIST  OSTEOPATH      PHARMACY
1                1                0                2                2                30
PHYSIO
2

> 100*table(dataf$Q1)/sum(table(dataf$Q1))
AUDIOLOGIST      CLINICS      DENTIST  DENTUROLOGIST  ergotherapist      HOSPITAL
1.388889      4.166667      6.944444      1.388889      1.388889      31.944444
LABORATORY  MASSOTHERAPY  OPTOMETRIST  OPTOMETRIST  OSTEOPATH      PHARMACY
1.388889      1.388889      0.000000      2.777778      2.777778      41.666667
PHYSIO
2.777778
    
```

The analysis of variable Q3 points out the fact that most of the respondents do not have an IT background. Only four respondents have a college degree or a certificate in IT and IS. In terms of years of experience in healthcare, the summary of Q4 variable shows that 36 respondents (50%) have more than 11 years of experience, 16 respondents have years of experience between 7 to 10 years (representing 22% of respondents), and 11 respondents years of experience between 3 to 6 years (representing 15% of respondents). Young people in the profession, with less than 3 years of experience, represent 12.5% of the respondents. The summary of Q5 variable related to years of experience in IT/IS project reveals that 64% of respondents have less than 3 years of experience in IT/IS projects, 15% with 3 to 6 years of experience, and almost 21% have more than 6 years of experience as the main actors in IT/IS projects.

The next section consists of analyzing and testing the research statement of the study based on the answers provided by respondents. We first grouped variables (questions) per research statement, so that we can easily analyze research statements based on the responses provided by respondents (see Table 1 below).

Table 1. Research statement associated with elements of questionnaire

Research Statement	Related Questions
Stakeholders in healthcare organizations perceive EA as a tool of planning IT/IS project	Q6- EA should be used as a tool of planning in IT/IS projects.
	Q8: A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.
	Q10: IT/IS projects supporting the treatment of critical diseases, such as cancer, should have a higher priority than projects to support simple injuries.
	Q18: EA should identify and analyze the execution of change toward desired business vision and outcomes.
	Q9: A primary goal of EA in IT/IS projects is to reduce the costs of healthcare activities.
Stakeholders in healthcare organizations perceive EA as a tool of integrating IT solutions	Q8: A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.
	Q11: Each IT/IS project in EA document should demonstrate its integration with other existing solutions.
	Q12: An IT/IS project with no interaction on existing solutions should be excluded in an EA document.
	Q13: An IT/IS project with interactions on existing solutions should be included in EA document even if it has a limited impact on service quality.
Stakeholders in healthcare organizations consider EA as a tool to break down organizational silos	Q14: EA is a tool that can help break down administrative silos within an organization.
	Q15: EA is a tool that can help create synergy between managers of different departments in an organization.
	Q16: EA encourages department heads to compete intensely to be the owners of business processes in IT/IS projects.
Stakeholders in healthcare organizations perceive EA as a tool of	Q6: EA should be used as a tool of planning in IT/IS projects.

digital transformation.	Q8: A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.
	Q16: EA encourages department heads to compete intensely to be the owners of business processes in IT/IS projects.
	Q18: EA should identify and analyze the execution of change toward desired business vision and outcomes.
	Q19: EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes.
Stakeholders in healthcare organizations consider EA as a tool for proactively and holistically leading enterprise responses to disruptive forces.	Q6: EA should be used as a tool of planning in IT/IS projects.
	Q7: A primary goal of EA in IT/IS projects is to improve the well-being of the patient population.
	Q8: A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.
	Q19: EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes.
Stakeholders in healthcare organizations consider EA as the process for translating business vision and strategy into effective enterprise change.	Q18: EA should identify and analyze the execution of change toward desired business vision and outcomes.

Analysis of Research Statement 1

“Stakeholders in healthcare organizations perceive EA as a tool of planning IT/IS project”

A part of IT/IS planning and management of IT/IS projects consists of managing outputs of projects and ensuring their alignment with the business objectives. The outcomes of projects have to improve the core objectives of the organization, which can be healthcare cost reduction, prioritizing tools for treating critical disease. The variables Q6, Q8, Q9, and Q18 of the dataset are identified as the ones that help to analyze and test this research statement.

Analysis of Q6 Variable

The summary of the Q6 variable gives 58% of respondents who agree or strongly agree that EA should be used as a tool of planning in IT/IS projects. Although 42% provided a neutral answer, it appears that there is no respondent who disagrees with the role of EA for supporting the planning of IT/IS projects.

```
> summary(dataf$Q6) #Number  
A N SA  
32 30 10  
> 100*table(dataf$Q6)/sum(table(dataf$Q6)) #-- Pourcentage
```

```
      A      N      SA  
44.44444 41.66667 13.88889
```

Analysis of Q8 Variable

51% of respondents agree that EA has an objective of improving the outcomes from the use of technology, 23.6 % strongly agree and only 1.3% of respondents disagree with the objective of EA to improve the outcomes from the use of technology.

```
> summary(dataf$Q8) #--Number  
A D N SA  
37 1 17 17  
> 100*table(dataf$Q8)/sum(table(dataf$Q8)) #-- Pourcentage
```

```
      A      D      N      SA  
51.388889 1.388889 23.611111 23.611111
```

Analysis of Q9 Variable

Almost 60% of the respondents support the idea that a primary goal of EA in IT/IS projects is to reduce the costs of healthcare activities. Only 4% disagree, and 36% of respondents preferred to be neutral on that question.

```
> summary(dataf$Q9) #--Number  
A D N SA  
28 3 26 15  
> 100*table(dataf$Q9)/sum(table(dataf$Q9)) #-- Pourcentage
```

```
      A      D      N      SA  
38.888889 4.166667 36.111111 20.833333
```

Analysis of Q18 Variable

78% of respondents were comfortable to support the idea that EA should identify and analyze the execution of change toward desired business vision and outcomes. No respondent disagrees with that point of view although 22% preferred to be neutral.

```
> summary(dataf$Q18) #--Number
  A  N SA
33 16 23
> 100*table(dataf$Q18)/sum(table(dataf$Q18)) #-- Percentage

      A      N      SA
45.83333 22.22222 31.94444
```

The results on Q6, Q8, Q9, and Q18 variables analysis showed that, excluding those who provided a neutral answer, only less than 5% disagree in each question. Based on these results, the research statement that “*Stakeholders in healthcare organizations perceive EA as a tool of planning IT/IS projects*” could be considered as positive. We interviewed subject matter experts in order to compare the outputs of data analysis with experts’ opinions. Dr. Cort Coghill (Expert 1) said that EA can be considered as a tool of project planning only in the context of helping with risk and resource alignment. He also states that it is important that EA should not be subjugated as a Project Management sub-skill. EA practice also supports strategic planning, knowledge management programs, etc. So, according to Expert 1, EA supports project planning, but it is not a tool only for project planning. Another expert we met, Dr. Douglas M. Brown (Expert 2), also agrees that EA helps with project planning. He said that we cannot plan effectively if we do not understand the business and how its products are constructed, and where the company is going (vision). A third expert we interviewed, Roger Evernden, TEDx and Keynote Speaker (Expert 3), perceives EA as a planning tool in the sense that it is about managing large-scale, systemic, complex change, and to do that we need well-planned projects. He also argued that EA provides a holistic context for the detail provided by project plans. This is why it is important to have EA roadmaps at multiple levels - at the high-level and the strategic end to provide an umbrella over many lower level EA project roadmaps. There should also be an EA roadmap for every project. The expert opinions matched with the responses obtained from the quantitative data.

Analysis of Research Statement 2

“Stakeholders in healthcare organizations perceive EA as a tool of integrating IT solutions.”

The integrating of IT/IS solutions is also determined by the improving of the outcomes from the use of technology. The document that leads the roadmap of IT/IS projects is a source showing the integration of projects, how they interact to support business needs. In case a project does not demonstrate an integration with other solutions, there should not be a reason to keep it maintained in the document. The variables Q8, Q11, Q12, and Q13 are those used to evaluate the goal of EA to support the integration of IT/IS

solutions. As we already analyzed the Q8 variable in the previous section, we have focused on variables Q11, Q12, and Q13.

Analysis of Q11 Variable

Only three respondents disagree with the goal of the EA document to demonstrate the integration of IT/IS projects with existing solutions. A total of 56% of respondents agree (actually 17% strongly agree) and 40% was of a neutral point of view on that question.

```
> summary(dataf$Q11) #--Number
  A  D  N SA
28  3 29 12
> 100*table(dataf$Q11)/sum(table(dataf$Q11)) #-- Pourcentage
      A          D          N          SA
38.888889  4.166667 40.277778 16.666667
```

Analysis of Q12 Variable

Concerning the point that IT/IS projects with no interaction on existing solutions should be excluded in an EA document, less than 50% (only 29 respondents) agree. We also have 44% of neutral responses and 15 % of respondents who disagree.

```
> summary(dataf$Q12) #--Number
  A  D  N SA
23 11 32  6
> 100*table(dataf$Q12)/sum(table(dataf$Q12)) #-- Pourcentage
      A          D          N          SA
31.944444 15.277778 44.444444  8.333333
```

Analysis of Q13 Variable

Less than 50% of respondents agree that an IT/IS project with interactions on existing solutions should be included in an EA document even if it has a limited impact on service quality. A total of 13.9 % disagree and 37.5% of respondents gave neutral responses.

```
> summary(dataf$Q13) #--Number
  A  D  N SA
32 10 27  3
> 100*table(dataf$Q13)/sum(table(dataf$Q13)) #-- Pourcentage
      A          D          N          SA
44.444444 13.888889 37.500000  4.166667
```

The low rate of respondents who agree to include a project with no interaction on existing solutions (Q12 variable) could lead to state that stakeholders consider EA as a tool for integrating IT solutions. There is no reason to include a project in an EA document if it doesn't integrate with existing solutions. In addition, the analysis of the Q11 variable (*EA*

document should demonstrate its integration with other existing solutions) results show only 3 respondents who disagree. The analysis of Q13 variables reveals a low rate of respondents who agree to include in EA document a project with interaction on existing solutions if the project does not have an impact on service quality.

As per results of data analysis, integration seems not to be the main point to consider when we include a project in an EA document in healthcare organizations, but on the impact of the project on quality of service provided by the organization. An interview with experts to compare outputs of data analysis with experts' point of view revealed that EA documents do not only consider integration as the main characteristic when we have to include a project in the EA document. According to Expert 1, an enterprise by its nature is a family of systems. Thus, no aspect of a system can be changed (i.e., reassignment of responsibilities to a new role or changing a computer screen) without impacting another part of the organization. So, to state that integration of systems is the start point is suggesting that there are elements of the enterprise that do participate in the development of the organization. This is a patently wrong understanding of system dynamics and the concept of enterprises as open systems and which is subject to emergent behavior. Expert 2 thinks that the whole point of EA is about integration. Expert 3 argues that integration of systems is just one of the outcomes that EA might be used for. The important point is to define the required outcomes and expectations of shareholders. EA then can be used to manage the strategic vectors and ensure that every project helps contribute to the overall EA direction.

Analysis of Research Statement 3

“Stakeholders in healthcare organizations consider EA as a tool to break down organizational silos”

Breaking down silos is a way that helps people work together and support each other based on the interest of reaching the common objectives of the organization. An organization relies on a set of processes and each process has a lead. However, no process can work alone, but it needs inputs from other processes and supplies other processes with its outputs. So, breaking down silos will help process owners to support each other by playing the role of a leader in their respective process. Here, we identified variables Q14, Q15, and Q16 to analyze this research statement.

Analysis of Q14 Variable

A total of 70 % of respondents agree on the goal of EA to help break down administrative silos within an organization. Only 3% disagree and 26% are neutral.

```
> summary(dataaf$Q14) #--Number
 A  D  N SA
38  2 19 13
> 100*table(dataaf$Q14)/sum(table(dataaf$Q14)) #-- Pourcentage

      A          D          N          SA
52.777778  2.777778 26.388889 18.055556
```

Analysis of Q15 Variable

A total of 75 % of respondents agreed that EA is a tool that can help create synergy between managers of different departments in an organization. No respondent disagreed.

```
> summary(dataaf$Q15) #--Number
 A  N SA
40 18 14
> 100*table(dataaf$Q15)/sum(table(dataaf$Q15)) #-- Pourcentage

      A          N          SA
55.55556 25.00000 19.44444
```

Analysis of Q16 Variable

Although we noted a high rate of respondents (42%) with a neutral opinion on that question, the analysis of Q16 variable shows that only 1 respondent disagrees with the fact that EA encourages department heads to compete intensely to be the owners of business processes in IT/IS projects.

```
> summary(dataaf$Q16) #--Number
 A  D  N SA
26  1 30 15
> 100*table(dataaf$Q16)/sum(table(dataaf$Q16)) #-- Pourcentage

      A          D          N          SA
36.111111  1.388889 41.666667 20.833333
```

The analysis of the three variables (Q14, Q15 and Q16), as presented above and which is based on the answers of respondents, shows that the research statement of “*Stakeholders in healthcare organizations consider EA as a tool to break down organizational silos*” would be considered as true. We asked three experts about the capability of EA to break down silo. The opinion of Expert 1 is that EA absolutely breaks down silos as it provides a holistic, rather than a partisan (silo) perspective. This was similar to a comment provided by one respondent working in a hospital when he was answering the questionnaire. The expert also revealed that stakeholders’ management, describing concerns in terms of how the architecture contributes to causing concerns, helps break down silos. Expert 2 stated that EA helps break down silos only when EA is understood as a holistic enterprise planning tool and not a subdomain or practice of IT. He also said that, presently, a good deal of EA practitioners falsely subscribes to the concept of EA as an IT planning tool/construct. Expert 3 opines that EA can

help break down silos as it can show where organizational groupings share commonalities.

Analysis of Research Statement 4

“Stakeholders in healthcare organizations perceive EA as a tool of digital transformation.”

We considered variables Q6, Q8, Q16, Q18, and Q19 to analyze this research statement related to digital transformation. In fact, digital transformation is the profound transformation of business and organizational activities, processes, competencies, and models to leverage the changes and opportunities of a mix of digital technologies and their accelerating impact across society in a strategic and prioritized way in the present and future. As we already saw on *research statement 1* analysis, the variables Q6, Q8, and Q18 received a very high rate of respondents who agree or strongly agree. The analysis of the Q19 variable also shows that no respondent disagrees. This could imply that stakeholders in healthcare organizations also perceive EA as a tool of digital transformation. A few respondents suggested that digital transformation is a new lever that will help organizations to take competitive advantage and, hence, it needs to be supported by EA.

```
> summary(dataf$Q19) #--Number
  A  N SA
42 19 11
> 100*table(dataf$Q19)/sum(table(dataf$Q19)) #-- Pourcentage
           A           N           SA
58.333333 26.388889 15.277778
```

We also asked the experts if they agree that EA is an effective tool of digital transformation. Expert 1 said it depends on many factors. He argued that the vast majority of digital transformation is viewed as an exercise in technology and not a transformation in an organization's business model. If we mean digital transformation as a part of business model transformation and considering the range of factors such as culture, content and tools, the answer is yes. If we mean digital transformation as an exercise in technology transformation, the answer is no because that is IT Architecture and not EA. Expert 2 opines that EA can be and should be an effective tool of digital transformation. Often it is not, and may even be an obstacle, if the EA staff do not understand the idea of “fit for purpose”. Expert 3 agreed that EA is an effective tool of digital transformation like any other type of transformation.

Analysis of Research Statement 5

“Stakeholders in healthcare organizations consider EA as a tool for proactively and holistically leading enterprise responses to disruptive forces.”

To proactively and holistically lead enterprise to disruptive forces, a company needs to manage projects in a well-organized framework, aiming to improve outcomes related to the use of technology. Leaders need to be proactive and provide recommendations to anticipate bad situations that can disrupt the functioning of the organization. To analyze this research statement, we chose variables Q6, Q8, and Q19. Variables Q6 and Q8 on analysis of research statement 1 gave the results that all respondents in Q6 agree that EA should be used as a tool of planning in IT/IS projects. For variable Q8, only one respondent disagrees that a primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology. The analysis of answers provided in variable Q19 (as below) also shows that no respondent disagrees that EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes.

Analysis of Q19 Variable

```
> summary(dataf$Q19) #--Number
  A  N SA
42 19 11
> 100*table(dataf$Q19)/sum(table(dataf$Q19)) #-- Pourcentage
      A      N      SA
58.33333 26.38889 15.27778
```

With a high rate of respondents who agree on questions related to Q6, Q8 and Q19 variables, this research statement can be considered as positive. According to Expert 1, 2 and 3, EA can help enterprises to proactively and holistically respond to disruptive forces. They assert that EA is indeed a holistic enterprise planning tool as it takes into consideration the organization and its environment. As such, it helps the organization to appropriately and timely respond to disruptive forces.

Analysis of Research Statement 6

“Stakeholders in healthcare organizations consider EA as the process for translating business vision and strategy into effective enterprise change.”

Translating business vision and strategy into effective enterprise change needs to be proactive by taking into cognizance the opportunities and the constraints of the business environment. For this research statement, we identified the Q18 variable, which is related to the question asked to respondents - *EA should identify and analyze the execution of change toward desired business vision and outcomes* - as the best fit for analysis.

As we can see on the results above, 56 respondents agree or strongly agree. There is no respondent who disagreed. Without the neutral answers on that question, we have 100% of respondents in favor that EA should identify and analyze the execution of change toward desired business vision and outcomes. Some of them provided additional comments supporting this perception.

We questioned experts to know their opinion about the characteristic of EA to identify and analyze the execution of change toward desired business vision and outcomes, and if they are using EA for this purpose. Expert 1 answered by agreeing that anything different is a sub domain of EA such as Business, IS or Data Architecture. EA is concerned with enterprise outcomes. Expert 2 also agrees with the fact that we cannot effectively make a good plan if we do not understand the business environment and factors that drive the business changes within organizations. EA through its sub-domains support should identify and analyze the execution of change toward desired business vision and outcomes. Expert 3 agrees and points out the fact that change will happen anyway. Thus, we can choose whether we want to manage and direct it or not. EA is one of the best tools if you choose to manage and direct change because it genuinely takes into account all views and viewpoints and then works out how to gain synergies between them - towards the common vision and outcomes.

Summary of Findings

This study aims to explore and analyze the perceptions of stakeholders in healthcare organizations in Canada on how they developed their own model of EA to improve managerial decision making and align business activities and IT within the enterprise. Below are the summaries of the key findings:

- *Stakeholders in Healthcare organizations perceive EA as a tool of planning IT/IS projects.* In fact, data analysis from questionnaire responses, coupled with experts' interview, showed almost 95% of participants who agreed to the positive impact of EA on IT/IS projects planning. It also shows the capability of EA to improve the outcomes of technologies as it provides a framework in which the use of technologies must be aligned with business strategy and objectives, and also aligned with business processes. Moreover, the parameter of cost (healthcare costs) which is an essential element in project management was highly approved by participants as optimized when EA is involved in the project management.
- *Stakeholders in healthcare organizations do not necessarily perceive EA as a tool of integrating IT solutions.* Indeed, stating that EA is a tool for integrating IT solutions means that all IT/IS projects must be

mentioned in the EA document, demonstrating their integration to support business challenges and highlighting a real impact on quality of services provided to patients. As per stakeholders answers, integration of IT/IS is often absent in EA documents developed by professionals. However, experts in the field of EA agreed that EA documents do not only consider integration as the main characteristic when we must include a project in the EA document.

- *Stakeholders in healthcare organizations consider EA as a tool to break down organizational silos.* More than 90% of respondents agreed on the added value of EA in bringing stakeholders around the same business objectives, sharing the same vision, and supporting each other in reaching the expected results. Results of the research study show that EA absolutely breaks down silos as it provides a holistic, rather than a partisan (silo) perspective. EA is understood as a holistic enterprise planning tool and not a subdomain or practice of IT.
- *Stakeholders in healthcare organizations perceive EA as a tool of digital transformation.* 90% of stakeholders perceive EA as a tool to support the digital transformation within organizations. Indeed, according to respondents, digital transformation consists of transforming business processes by bringing technologies to support activities in the way they are optimized to create more value by reducing time and space which are no longer a problem for organization today because of new technologies. Any changes in organizations must be managed as projects. In that case, as we saw in research statement 1 that EA is a tool supporting IT/IS planning, it also supports changes which can be related to digital transformations. The positive testing was comforted by an expert's opinion we met who argued that if we mean digital transformation as a part of business model transformation and considering the range of factors such as culture, content and tools, it is right to consider EA as a tool of digital transformation.
- *Stakeholders in healthcare organizations consider EA as a tool for proactively and holistically leading enterprise responses to disruptive forces.* Results showed 95% of respondents who agreed that EA provides a framework that helps to gather all elements and factors (internal and external), necessary to proactively manage potential organizational issues. Indeed, the process of implementing the framework of EA involves questioning about business strategy and objectives, business processes, IS and technology. By doing so, practitioners will identify factors that would influence the functioning

of the organization and actions plan will be developed to tackle the situation.

- *Stakeholders in healthcare organizations consider EA as the process for translating business vision and strategy into effective enterprise change.* In fact, 100% of respondents agreed with the capability of EA to translate the business vision and strategy to a set of actions leading to changes within the organization. This was also approved by experts we interviewed who provided arguments to support the statement.

Conclusion

The study aimed to explore the perceptions of stakeholders in healthcare organizations in Canada on how they developed Enterprise Architecture (EA) to improve managerial decision making and align business activities and Information Technology (IT). This study is particularly relevant considering the importance of healthcare, the concerns surrounding the rising cost of healthcare delivery, and the role of technology in achieving efficient healthcare delivery. Also, there is growing concern in the misalignment between the cost of procuring and implementing IT and technology projects in healthcare organizations and achieving the desired results. The findings of this research show that EA can help bring about the desired results in healthcare organizations as it is the right tool for planning IT/IS projects; developing digital transformation, bringing business objectives and strategy into life, and removing silos that exist within the organization. Furthermore, the findings of this research is very significant as no previous study as far as we know explored the perceptions of medical practitioners and other employees within healthcare organizations in Canada on how they developed EA to improve managerial decision making and align business activities and IT.

As much as the findings of this research remain very significant, there are some limitations in the research process. The research study has a limitation in stakeholders sampling that needs to be highlighted. Stakeholders sampling of the study did not include government personnel such as healthcare decision makers in government. We know that those people have a significant influence on decisions made in the healthcare sector, hence would have an impact on the results of this study. Also the researchers would have wished to send out questionnaires to more participants and interviewed more participants beyond the three experts. However, these were hampered due to funding and time constraints.

We would like to recommend a few areas for future research. It is recommended that future researchers should measure the impact of stakeholders' experience on their perceptions of EA. The idea would be to

test if stakeholders who have been familiar with EA are more likely to encourage the integration of EA in the framework of governance within healthcare organizations. Another research study topic could be to test the impact of healthcare organizations size on the stakeholders' perceptions. Another area for next research study could be to analyze the correlation between size of healthcare organizations and the perception of stakeholders on EA. The researcher could study if stakeholders in large healthcare organizations are more likely to perceive the importance of EA than stakeholders working in small healthcare organizations.

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Appendix 1

Appendix 1: Questionnaire				
Personal Information on Respondent				
Name of your organisation (optional)	_____			
Name of respondent (optional)	_____			
College degree or certification in IT/IS area	es	Y	o	N
Years of Experience in healthcare: 0-2, 3-6, 7-10,11 or more.	-2	0 - 6	7 - 10	11+
Years of Experience with IT/IS projects: 0-2, 3-6, 7-10,11 or more.	-2	0 - 6	7 - 10	11+
How familiar are you with the concept of enterprise architecture? (High, Medium, Low, Not familiar)	H		L	N
Survey Questions				
For each of the following statements, select SA strongly agree, A agree, N neutral or not applicable, D disagree, or SD strongly disagree.				
EA should be used as a tool of planning in IT/IS projects.	A	S	N	D
A primary goal of EA in IT/IS projects is to improve the well-being of the patient population.	A	S	N	D
A primary goal of EA in IT/IS projects is to improve the outcomes from the use of technology.	A	S	N	D

A primary goal of EA in IT/IS projects is to reduce the costs of healthcare activities.	A	S		N	D
IT/IS projects supporting the treatment of critical diseases, such as cancer, should have a higher priority than projects to support simple injuries.	A	S		N	D
Each IT/IS project in EA document should demonstrate its integration with other existing solutions.	A	S		N	D
An IT/IS project with no interaction on existing solutions should be excluded in an EA document.	A	S		N	D
An IT/IS project with interactions on existing solutions should be included in EA document even if it has a limited impact on service quality.	A	S		N	D
EA is a tool that can help break down administrative silos within an organization.	A	S		N	D
EA is a tool that can help create synergy between managers of different departments in an organization.	A	S		N	D
EA encourages department heads to compete intensely to be the owners of business processes in IT/IS projects.	A	S		N	D
Stakeholders without IT/IS background often do not support EA in IT/IS projects.	A	S		N	D
Stakeholders with IT/IS background often encourage EA in IT/IS projects.	A	S		N	D
EA should identify and analyze the execution of change toward desired business vision and outcomes.	A	S		N	D
EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes.	A	S		N	D

Domestic violence against children and adolescents in Taif, Saudi Arabia: Analytical study from the school counsellor's perspective

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Abstract

The study aimed to recognise the differences, relationships, and prediction of domestic violence among school students from the school counsellors in Taif, Saudi Arabia. A mixed-methods approach was used in collecting and analysing quantitative and qualitative data. A questionnaire and interviews were used. The sample that answered the questionnaire included 84 schools' counsellors, whereas the sample that answered the interviews was 13 schools' counsellors. Results showed that there are significant differences at $p < .05$ in the domestic violence suffered by students: students in primary school ($M = 3.83$; $SD = .910$), and in particular the students who study in schools with between 1001 and 1200 students ($M = 2.301$; $SD = .311$) and who study in schools with between 801 and 1000 ($M = 2.299$, $SD = .419$), but there was no difference regarding the experience of schools' counsellors. There were positive correlations at $p < .05$ between domestic violence and

both the total number of students in a school ($\rho = .14$) and the experience of schools' counsellors ($\rho = .09$) but not with the stage of education. It is also impossible to predict domestic violence incidents by using the total number of students in a school, schools' counsellors' experience, and the stage of education. Qualitative data from the interviews were used to support the findings of the quantitative data. For example, school counsellors from secondary school stressed that they dealt with students who suffer from domestic violence, and from crowded schools agreed that they saw many students who suffer from domestic violence. The results of this article showed the importance of investigating domestic violence in under-researched societies, such as school students from Saudi Arabia. This study ended with some recommendations. One recommendation is to have enough schools' counsellors based on the total number of students in a school. Other recommendations that enhance mental health in schools and increase the quality of a schools' counsellor's work.

Key Words: Domestic Violence; School Students; Schools' Counsellors

Introduction:

This study aimed to explore the school students who suffer from violence using information about their school level, school counsellor experience, and the total number of students in their schools – from the school counsellors' perspective. This research is essential because it adds to the literature in the related areas such as school students who suffer from domestic violence and the influence of the school counsellors' experience on exploring these students and dealing with them. It is essential also because it discusses such issues in the under-researched population - Saudi school students.

The National Survey of Mental Health's technical report in Saudi Arabia (2019) indicated that the prevalence of mental disorders among Saudi youth is 40% at 15 – 24 years. In other words, two out of five people at this particular age suffer from mental issues. This prevalence is higher than in Australia, and Europe combined but lower than in the United States. El-Gilany and Amr (2010) discussed mental problems and disorders among children and adolescents in Middle Eastern countries such as 35% of school students in Egypt suffer from anxiety, 37.4% of Iraqi children have psychiatric disorders, more than 13% of elementary school students in the UAE have some form of behavioural disorders. The report of the national survey also showed the percentage of many disorders such as, but not limited to, separation anxiety (11.9%), ADHD (8%), depression (6%), social phobia (5.6%), and obsessive-compulsive disorder (4.1%), all of which were

investigated among youths aged 15 – 18 years old, i.e., students in secondary school. Such mental issues and behavioural problems may directly affect the violence and neglect that this age group is exposed to.

Al Hariri (2017) found that 43% of intermediate school students at Taif show signs of behavioural disorders and problems, e.g., assaulting teachers (32%), assaulting others (50%), provoking teachers (51%), provoking family members at home (40%), having problems with family members (36%), and living in a tense home environment (34%). Another study conducted by Al Hariri (2016) found that the students in their last year of intermediate school in Taif showed a higher average number of social problems.

The Guidance and Counseling Department in Taif Education – by Al-Qarni, Al-Thamali, and Al-Fifi (2019) – conducted a survey study on a sample of 17,271 students in 59 elementary, 33 intermediate, and 28 secondary schools. The results showed 92 cases of family disintegration and 36 cases of family neglect – both in the elementary stage.

All these studies stressed the issues of violence or neglect reflected in the students' behaviour and eventually led to social and academic problems. Based on the research team's experience in psychology and education, one of the best resources to use to gain a better understanding of students who suffer from violence or neglect is the school counsellor as they seek and receive information about students' behaviour from multiple stakeholders (Nassar-Mcmillan, Karvonen, Perez, and Abrams, 2009). Therefore, the current study aimed to investigate students who suffer from violence from the school counsellor's perspective.

Research questions:

1. What are the differences in students who suffer from violence based on their school level, school counsellor experience, and the total number of students in a school?
2. What are the relationships between exploring students who suffer from violence and their school level, school counsellor experience, and the total number of students in a school?

Research aims:

This study aimed:

1. To investigate the differences in students who suffer from violence based on their school level, school counsellor experience, and the total number of students in a school.
2. To identify the relationships between exploring students who suffer from violence and their school level, school counsellor experience, and the total number of students in a school.

The current research community are Saudi school counsellors at elementary, intermediate and secondary schools for boys in Taif.

Methodology:

Research design:

This mixed-methods research used an explanatory two-sequential stage design. This methodology allows for comprehensive quantitative data and in-depth qualitative data to be used, i.e., it increases the quality of research (Johnson & Onwuegbuzie, 2004; Lund, 2012). There is a lack of mixed methodology research in developing countries (Teddlie & Tashakkori, 2010), such as Saudi Arabia. Therefore, this study will contribute to filling this gap in the body of research.

The two stages were: quantitative data phase to answer the research questions, and then qualitative data phase to explain the quantitative results. Both data types were collected from school counsellors.

Research samples:

1. The sample of the questionnaire:

The population is the Saudi school counsellors. The questionnaire was administrated on a simple, randomly selected sample of school counsellors by using a barcode reader (n. 25894, on 28/02/2019) provided by Taif Education Administration. Forty-eight counsellors completed the questionnaire (representing approximately 20% of the population). Table 1 shows the demographic information of the participants who completed the questionnaire.

2. The sample of the interviews:

Thirteen school counsellors voluntarily participated to be interviewed. They worked across all three school levels in different schools (ranging from schools with a small number of students to overcrowded schools), and all have different experiences. It is worth highlighting that conducting 12 interviews in scientific research is sufficient to reach qualitative data saturation (Guest, Bunce & Johnson, 2006, p.74). This means that the researcher reaches a stage of collecting qualitative information where no new classifications or topics appear with him/her after that (DiCicco-Bloom & Crabtree, 2006, pp. 317-318).

This supports the adequacy and method of selecting the interview sample in the current research, and the characteristics of the sample that were interviewed are shown in Table 1.

Table 1: Demographic information about the participants in the two samples

Participants of the Quantitative Stage (n = 84)			Participants of the Qualitative Stage (n = 13)		
Variable	Group	%	Variable	Group	n
SL	Primary	32.14	SL	Primary	3
	Intermediate	34.5		Intermediate	6
	Secondary	33.33		Secondary	4
		100%			Total 13
TNSS	From 1 to 200	16.6	TNSS	From 1 to 200	-
	From 201 to 400	13.1		From 201 to 400	2
	From 401 to 600	19		From 401 to 600	6
	From 601 to 800	14.3		From 601 to 800	3
	From 801 to 1000	15.5		From 801 to 1000	-
	From 1001 to 1200	21.4		From 1001 to 1200	2
		100%			Total 13
SCE	Less than two years	13	SCE	Less than two years	3
	From 2 to less than four years	16.7		From 2 to less than four years	-
	From 4 to less than six years	13		From 4 to less than six years	3
	From 6 to less than eight years	14.3		From 6 to less than eight years	-
	From 8 to less than ten years	14.5		From 8 to less than ten years	1
	Ten years and more	27.4		Ten years and more	6
		100%			Total 13

SL = School Level

TNSS = Total Number of Students in a School

SCE = School Counsellor Experience

Research instruments:

1. Structured questionnaire:

The research team built a structured questionnaire describing domestic violence's essential features as stated in the World Health Organization's ICD-10, the DSM-IV & DSM-5 of the American Psychiatric Association (APA), and some related literature and studies, such as Radford, 2013; Valiulis, 2014. This resulted in nine items that describe the violence that students may suffer from.

It is worth noting that De Vaus (2010) emphasized the impossibility of determining the number of a questionnaire's items or the length of a scale, especially in the field of social sciences. This length depends on several factors, e.g., the target community, the nature of the questions and phrases in terms of their simplicity or complexity, and the topic's importance to the target group. Based on their experience in the educational research field, the current research team believes that nine phrases are sufficient that can express domestic violence suffered by students across three school levels.

There are, however, questionnaires with less than nine items, such as the Generalised Anxiety Disorder, which has seven AB ARAT (Bártolo, Monteiro, & Pereira, 2017).

a) Questionnaire’s validity:

Internal consistency was conducted using Spearman’s Correlation Coefficients between each item and the questionnaire’s total score, as shown in Table 2.

Table 2: Item correlations in the questionnaire of domestic violence questionnaire

	Items To what extent do you deal with	Correlation with the scale*	P-value
1	cases of students with a family rift	.451	< .001
2	cases of family disintegration	.419	< .001
3	cases of domestic violence	.616	< .001
4	cases of students neglected by their families in general	.732	< .001
5	cases showing a rise in students neglected by their families	.762	< .001
6	students who have been neglecting their education due to their families	.818	< .001
7	students whose health is neglected by their families	.712	< .001
8	cases of the religiously neglected students from their families	.603	< .001
9	students whose nutrition is neglected by their families	.591	< .001

The questionnaire’s internal validity was significant at $p < .001$, and all the correlations were above .30. This means that the questionnaire is valid and its results are trustworthy.

b) Questionnaire’s reliability

Cronbach’s Alpha Coefficient (α) was used to check the questionnaire’s reliability. The α of the whole questionnaire was .793, i.e., the questionnaire is reliable.

2. Semi-structured interviews

A semi-structured interview was conducted on thirteen school counsellors. These interviews aimed to understand the students who suffer from domestic violence from their school counsellor’s perspective. This type of interview directs the participants to talk about a specific topic whilst leaving space for them to freely express their feelings and thoughts within the particular question's framework (Morgan, 1997; Robson, 2011; Bryman, 2012).

Data Analysis:

Quantitative data was entered to SPSS (version 24) and it was coded as: strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1. Kolmogorov-Smirnov showed that the data was not normally distributed, which is the norm in social sciences research. One-way analysis of variance – ANOVA was used to investigate the differences in the domestic violence suffered by students according to the school level, the number of students in the school, and the school counsellors’ experience. Spearman’s Rank-Order Correlation coefficient was adopted to identify the relationships between exploring the students who suffer from violence and their school level, school counsellor experience, and the total number of students in a school.

Qualitative data was analyzed by using thematic analysis. It is an approach to organising and describing the data in more depth and detail (Braun & Clark, 2006: 79). This type of analysis also helps explain the studied issue (Anderson & Kanuka, 2003; DiCicco-Bloom & Crabtree, 2006).

Results and discussion:

Q1. To investigate the differences in the students who suffer from violence based on their school level, school counsellor experience, and the total number of students in a school.

One-way analysis of variance – ANOVA was used to answer the first question, as shown in Table 3.

Table 3: ANOVA shows the significant differences in domestic violence (n = 84)

Variable		Sum of Squares	df	Mean Square	F	Sig.*	η^2
SL	Between Groups	198.069	2	99.034	4.651	.02*	.023
	Within Groups	8556.944	81	105.641			
	Total	8755.004	83				
TNSS	Between Groups	291.112	5	43.822	5.511	.03*	.028
	Within Groups	9912.016	78	127.077			
	Total	10131.128	83				
SCE	Between Groups	378.968	5	40.793	1.939	.09	-
	Within Groups	9471.971	78	121.435			
	Total	9675.939	83				

* $p < .05$

df = degree of freedom

F = One-way analysis of variance – ANOVA

η^2 = Eta squared (Effect Size)

SL = School Level
 TNSS = Total Number of Students in a School
 SCE = School Counsellors' Experience

Table 3 illustrates significant differences in students' domestic violence on two variables: school level and students' total number in a school. The effect size for both variables was small $\eta^2 = .023$ and $.028$, respectively. Pallant (2013) discussed that $.01$ is a small effect size, $.06$ is a medium effect size, and $.14$ is a large effect size. Table 4 specifies where these differences are exactly.

Table 4: Tukey HSD shows multiple comparisons (n = 84)

Variable	Groups	n	M	SD	1	2	3	4	5	6
ES	1 Primary	27	3.12	.906	-					
	2 Intermediate	29	3.86	.677	.74	-				
	3 Secondary	28	4.63	.848	1.51*	.77	-			
TNSS	1 From 1 to 200	14	1.37	.201	-					
	2 From 201 to 400	11	1.38	.183	.01	-				
	3 From 401 to 600	16	1.83	.161	.46	.45	-			
	4 From 601 to 800	12	1.86	.064	.49	.48	.03	-		
	5 From 801 to 1000	13	1.90	.212	.53	.52	.07	.04	-	
	6 From 1001 to 1200	18	2.29	.335	.92*	.91	.46	.43	.39	-

* $p < .05$

ES = Educational Stage
 TNSS = Total Number of Students in a School

Table 4 shows statistically significant differences at $p < .05$ in domestic violence suffered by students in secondary and elementary schools, in favour of elementary school students ($M = 3.83$, $SD = .910$) with a mean difference = 1.11. Most of the interviewed counsellors in secondary school stressed that they see cases of students who suffer from domestic violence. This is in line with a number of studies, e.g., Dufva, 2001; Alexander et al., 2005; Rovis et al., 2016; Ralo et al., 2015, that discussed children's suffering at the elementary stage. Annerbäck et al. (2010) confirmed that annually, one child out of 20 at the intermediate level in Sweden suffers from domestic violence, while 14% of intermediate and secondary school students suffer from violence by a family member (Jernbro and Jansson, 2017).

Besides, there were statistically significant differences at $p < .05$ between schools with fewer than 200 students and crowded schools, in favour of the latter. This difference is specifically true in favour of schools with 1001 to 1200 students ($M = 2.301$, $SD = .311$) with a mean difference equal to 1.056; schools with 801 to 1000 students ($M = 2.299$, $SD = .419$) with a mean difference equal to 1.054. All the interviewed counsellors who work in crowded schools agreed that many students suffer from domestic violence. In

consent with this, Jewkes (2002) and Heise (2002) confirm the relationship between domestic violence and crowded places.

The current study did not find a difference in students' domestic violence based on the school counsellors' experience. This is in agreement with Refvem (2000), who confirmed that some counsellors do not have an influential role in dealing with students who suffer from domestic violence. Some of these counsellors need others' help to uncover cases of children suffering from domestic violence.

Q2. To identify the relationships between exploring the students who suffer from violence and their school level, school counsellor experience, and the total number of students in a school.

Spearman's Rank-Order Correlation was used to show the correlation between domestic violence and the three variables. Pallant (2013) specified three different sizes of correlation: between .10 and .29 is an indicator of small correlation, between .30 and .49 is an indicator of a moderate relationship, and between .50 and 1 is an indicator of a large association.

There was a small positive relationship at $p < .05$ between domestic violence and both the total number of students in the school ($\rho = .14$) and the experience of the school counsellors ($\rho = .09$), i.e., the more students in the school, the more likely to find a higher number of students suffering from domestic violence in bigger schools. The greater number of years of experience of a school counsellor, the more likely he/she will recognize cases of those who suffer from domestic violence. Indeed, the interviewed school counsellors in crowded schools and with long experience were the ones who discussed more cases of students suffering from domestic violence. Lloyd (2018) confirmed the link between domestic violence and other variables, including crowded places, e.g., overcrowded schools. The current result is also consistent with Sargin's (2016) findings that school counsellors explain the concept of domestic or family violence as psychological or physical harm to a battered child, which may lead to behavioural problems, mental disorders, bodily injury or death.

However, the current research did not find a relationship between domestic violence and school level ($\rho = .007$, $p = .18$). Maybe this is due to the current division of age groups, i.e. into three stages. Interviewed school counsellors from all three stages discussed domestic violence cases, although the majority of them were in secondary school. Carlos et al. (2017) proved that 227 children aged between one day and 19 years old die due to violence from one of their family members every day around the world. Some studies confirmed the lack of research about domestic and family violence in adolescents (Osofsky, 1999).

Based on the results of both questions, the research team recommend the following:

Regarding the students in a school:

1. It is essential to have an appropriate number of school counsellors in a school relative to the number of students. This would help maintain the quality of counselling services.
2. It is crucial to reduce the number of students in a school to ensure the quality of student counselling services in line with the best international practices.
3. It is crucial to explore the behavioural problems related to domestic violence that students may suffer from as early as possible across all school levels.

Concerning school counsellors' work:

1. It is essential to benefit from expert school counsellors whose experience exceeds ten years and transfer their knowledge and skills to other counsellors with fewer years of experience.
2. School counsellors must improve their work to design and implement counselling programmes and measure the programme's effectiveness for positive or negatively distinguished cases.
3. It is crucial to continuously educate and qualify the school counsellors about the students' behavioural problems (prevention, diagnosis, and guidance) to increase the effectiveness of counselling services.
4. It is vital to document the outcome of the school counsellor's work and report the cases that he/she dealt with. The aim of this is to show the effectiveness of the school counsellor's job.
5. It is worthwhile assessing the school counsellors' job based on three matters: electronic work, using behavioural measurements, and applying for guidance programmes.
6. It is vital to activate the coordination and cooperative work between mental health hospitals, psychiatric clinics, police stations and counselling services by referring difficult cases and following them up in the school.
7. It is essential to develop a technical/advisory model by the school counsellor and the family members, particularly elementary school students.

Limitations:

The current findings are cross-sectional. We cannot confirm causality between the variables. However, this study can be considered as the first step to understand domestic violence among Saudi students, and therefore, this study can direct further research to investigate domestic violence and link it to other factors and investigates mediators and moderators affects. Besides, this study targeted males only, so more comparative studies that include males and females are needed. The study also collected data from school counsellors only, so further research that targeting the students themselves plus their counsellors would be beneficial. However, despite all these limitations, this study adds to the body of literature, especially that it targeted an under-researched population – i.e. Saudi school students.

Conclusion:

This research aimed to investigate the differences in students who suffer from violence based on their school level, school counsellor experience, and the total number of students in a school. It also aimed to identify the relationships between exploring students who suffer from violence and their school level, school counsellor experience, and the total number of students in a school. A mixed methodology was used. Questionnaire and interview were conducted, and quantitative and qualitative data were used to answer the research questions. We answered the research questions statistically and supported the results with the findings from the qualitative data. The findings confirm the vital role of school counsellors in exploring and dealing with students who suffer from domestic violence. This research can be considered a step in understanding domestic violence that school students suffer in Taif – Saudi Arabia. Further research is needed to compare domestic violence among different groups such as boys and girls or between children and adolescents.

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The Contribution of Digital Marketing to Business Performance: The Case of Companies in the Northern Region of Morocco

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Abstract

Digital marketing is revolutionizing the organizational structures and offers companies, especially Moroccan companies, a multitude of opportunities to evolve the classic business model to innovate in products and services while building a direct and personalized relationship with customers. Indeed, digital marketing highlights important features for companies seeking efficiency and performance, and it considers an attractive alternative to traditional approaches as a response to the challenges of globalization. The ultimate objective of our research is to confirm the direct relationship between digital marketing and the business performance of companies in the northern region of Morocco. The result of the study was noted by many authors. On this matter, we have conducted a quantitative

survey carried out among 120 companies in the northern region of Morocco using the PLS path modeling, a method particularly suited for academic development and predictive applications. According to our empirical study, we found that digital marketing has a positive impact on the performance of companies in the northern region of Morocco.

Keywords: Digital Marketing, Business Performance, Top Management Support, Digitalization, Technology

Introduction

The business world and the functioning of markets are progressively digitalized, which is upsetting the development strategies of organizations and the rules of competition. Digitalization also extends to the services and products offered by companies, and it also changes the relationship between suppliers and customers.

Digitalization offers companies the agility and flexibility they need to optimize their production and respond effectively to the demands of customers who, in turn, have become informed and connected. It also enables them to adapt quickly to market fluctuations and to preserve and/or acquire their competitive position.

Digitalization now affects all functions of the company. Consequently, the marketing and sales department is not an exception. Therefore, the advent of digital marketing, which in turn allows optimizing the actions deployed by companies, deliver the right information and offer the right products at the right time.

Nowadays, digital marketing offers many opportunities for all types of companies that want to tackle the risks of competition. Digital marketing is seen as a constantly evolving device and provides effective and tailor-made answers to new consumer's requirements. In addition, optimizing efficiency and performance is one of the major challenges that companies must face by seizing all the advantages offered by digital marketing.

Performance is a pervasive notion in the existence of a company and its improvement is one of the concerns that every company strives to address in order to ensure a better allocation of resources and achieve satisfactory results. Thus, digital marketing through the implementation of marketing and commercial actions can be considered as an excellent opportunity to generate more profits and therefore promote the company's performance.

This paper focuses on shedding light on the contribution of digital marketing to business performance. It is essentially based on the fact of apprehending through a conceptual model, an exploratory factorial analysis, and a confirmatory factorial analysis via the method of structural equations in order to study the impact of digital marketing on the business performance of companies, particularly in the northern region of Morocco.

In other words, the ultimate objective of our paper is to answer our main question, which will be stated as follows: Does digital marketing contribute to the business performance of companies in the northern region of Morocco?

In order to answer our main question, we will opt for a research methodology based on a literature review to identify, on the one hand, the concept of digital marketing and, on the other hand, that of performance. In addition, we will also highlight the theoretical contribution of the

relationship between digital marketing and business performance. Similarly, we will complete our documentary and theoretical research by a quantitative study with a sample of 120 companies in the northern region of Morocco and this through a survey based on the administration of a questionnaire.

Theoretical Background

Today, Moroccan companies in all sectors are affected by what is called digital transformation. These include new digital uses undertaken by companies to improve their performance through new technologies, both functionally and commercially. Similarly, the Moroccan market is very competitive; in order to stand out, communication and marketing are key positions. Consequently, the top management of each company must be aware of the challenges and opportunities that digital technology offers for the development of their activities and the improvement of their performance, especially business.

We will, therefore, through this point, expose the conceptual and theoretical framework of our article by presenting the basic concepts (digital marketing, business performance, top management support).

1. Digital Marketing: An Art with a Meteoric Rise

Laurent Flores (2012) in his book "Measuring the effectiveness of digital marketing" has defined the term as follows:

"Digital marketing brings together all the interactive digital tools to promote products and services in the context of personalized and direct relations with consumers. It concerns all digital contact points: Internet, Smartphones, tablets... Its development is driven by changing uses: multi-screen and multi-tasking; media consumption is also multiplying".

Definitions-Marketing.com defines digital marketing as follows:

"Digital marketing refers to all marketing techniques used on digital media and channels. The term is probably destined to disappear, as marketing tends to become "inherently digital". Digital marketing essentially covers marketing applications related to the "traditional" Internet, but also those related to cell phones, tablets, GPS and other connected applications and objects. Mobile marketing (mobile sites + mobile applications) is becoming more and more important."

Bressolles et al. (2016), in his book titled "Le marketing digital", gave us the following definition:

"Digital marketing can be defined as the process of planning and implementing the development, pricing, communication, and distribution of an idea, product, or service to create exchanges, in whole or in part using digital technologies, that are inconsistent with individual and organizational objectives. The implementation of digital marketing techniques is aimed at

acquiring new customers or improving the management of the relationship with existing customers. Digital marketing is of course integrated with traditional marketing tools in a multi-channel/cross-channel marketing strategy.”

We can therefore deduce that digital marketing is all the marketing activities of an organization carried out via digital channels (website, e-mail, social networks, mobile, connected TV ...).

The digital shift that Morocco is experiencing generates an astronomical amount of data that companies will have to exploit to better know their customers and deliver an appreciated advertising message. However, the sales function is at the heart of this essential ability to support and better anticipate changes. Indeed, its unique position within the organization leads it to manage the changes of a customer which is always more connected, more attentive and more demanding, as well as the expectations of teams for more recognition and perception.

2. Business Performance: What Does it Mean?

Performance is a concept commonly evoked both in daily life and in professional life. It has become an obligation for the different actors irrespective of their field of action. Its improvement has become a challenge for any company concerned about its survival and its brand image in the market in which it operates.

Before focusing on the notion of business performance, it is a good idea to first define the concept “Performance”.

Etymologically, the word “performance” entered French dictionaries in 1839. It is borrowed from the English word “performance”, derived from “to perform” (to realize, to accomplish) which itself comes from the old French performer.

Literally, Waldman (1994) defines performance as “the set of actions that enable the coordination and improvement of the activities and results of an organizational unit”. Khemakhem defines it as "the performance of work, the way in which an entity reacts to incentives or achieves the objectives set for it". Marchersney (1991) equates it with the degree to which the goal is achieved.

While corporate performance is relevant to all functions, we will focus on business performance since it is the basic element of our study.

Business performance can be translated into the achievement of business objectives in a way that is relative to the means used to achieve them. It is defined by Ouattara (2007) as "the ability of the firm to satisfy its customers by offering them goods and services of good quality that meet their expectations. Plauchu and Taïrou (2008) define it as: "the art of being present at the right interlocutor at the right time, with a relevant offer, which

allows the establishment of long-lasting and profitable business relationships for the company in a context of permanent search for excellence of the service".

In addition, there are many levers for improving the company's business performance, as follows:

-Knowing and understanding your market

It is a matter of knowing and understanding the factors that influence the company's results, and above all, knowing how to use this knowledge to produce more value in the future.

-Differentiate yourself from the competition

To apply a differentiation strategy to attract more customers and to retain them, which will allow the company to be more attractive and do more business.

-Evaluate its business activity

Measurement is the essential fuel for the proper functioning of any business system. The company must know how to measure the effectiveness of the business activity and monitor all the key aspects of its business performance by evaluating customer assets and measuring the business performance action.

- Direct the business action

The sales policy is the operational translation of the company's strategy, for example: Setting the company's sales objectives or identifying targets to approach or develop.

-Setting individual contribution

The management system is everything that contributes to defining, motivating, monitoring, and evaluating the individual work of sales people. It is the driving force of the business activity.

-Managing your sales force

The managerial practice is measured by the ability of the manager to use all sources of power at his disposal to manage his team. He must learn how to articulate and encourage them in order to increase his power of influence over his team and focus energies on the company's priorities.

Indeed, the company's business performance becomes an indispensable notion insofar as it allows it to know its notoriety, its place within the market, its positioning, the different products that customers have appreciated, etc.

The business performance also allows the different actors of the company to know the main levers of their performance and customer satisfaction. This is very important since the objectives of any company are to attract as many customers as possible and to make the best possible sale.

Since digital marketing is revolutionizing all sectors of activity and affects the majority of consumers, company managers must mobilize the

technical, human, and financial resources to take advantage of this undeniable phenomenon for the sustainability of the company.

3. Top Management Support: Role and Definitions

In this work, Mahoney (2011) considers top management support as a series of behaviors adopted by the most senior managers of companies, with a view of the success of technological projects. We retain his definition of management support as "the extent to which a senior manager is personally committed through specific behaviors to promote the success of an information technology project".

Mahoney (2011) defines the latter as a belief reflecting the result of a series of behaviors of a top manager, who communicates his beliefs to others in the organization.

Many organizational and environmental factors influence a company's commitment to innovation. Among the organizational factors, the perception of the management team and the team dynamics are expected to have a significant direct impact on the company's commitment to innovation (Daellenbach et al., 2002).

Thus, understanding new uses of digital technologies is not exclusive to IT departments, as business leaders need to understand more about digital trends, their impacts, and how to take advantage of them (Harvard Business Review, 2015). This refers not just to knowing how technology works, but also to understanding its importance and how to use it. Thanks to the power of technology, which requires new skills in R&D, marketing, and customer relations. Also, leading digital companies have developed new markets and have increased their margins compared to their competitors. According to the Harvard Business Review report (2015), this goes through the top, where CEOs must absolutely define and communicate a digital vision and strategy, and place new skills across all functions of their companies because any lack of digital leadership could be an obstacle to their development.

Similarly, companies that are beginning a process of digital transformation cite a variety of reasons (Dudézert, 2018). Firstly, an evolution in the source of value creation and customer expectations, leading companies to evolve their product and service offering, thanks to new digital practices. Next is the role of employees, who tend to be in collaborative mode with the company, in creating greater autonomy and capacity for action. Last motivation refers to the need to reduce costs, even if the investments in terms of setting up digital platforms are quite significant.

With regard to all these issues, the digital transformation, compared to other transversal approaches, is encouraged with the support of the general management, the executive committee of the organization or the director of human resources (Dudézert, 2018). According to the author, this support is

translated, in addition to the computer equipment to the employee, by the allocation of time dedicated to specific training, seminars, and the creation of new jobs (chief digital officer) or departments dedicated to digital projects.

Ultimately, digital technologies are rapidly changing the environment in which companies operate, changing the rules of competition, affecting the structure of the industry, and providing companies with new ways to outperform their competitors.

Literature Review

The digital revolution offers opportunities that have revolutionized the way companies market themselves (Simpson, 2007), resulting in changes in the nature of trade and the way companies and consumers relate to each other.

Indeed, all players agree that the digital transformation is shifting value within sectors, whether they are industrial or service sectors, whether companies operate with industrial clients or in the general public sector (Besson, 2016, p. 8). The digital transformation, by promoting connectivity and the use of digital tools by companies, is permanently changing the way they operate (Deloitte, 2016) and the relationship with their clients. It develops creativity and innovation and increases their impact on customer satisfaction and loyalty (Kenmogne et al., 2018), which has a positive impact on their business performance.

Digital marketing allows for a better understanding of the customer experience by offering personalized services across multiple touch points (video, sms, social media, website, smartphone...). According to Day (2013), many executives say that digital marketing investments are the most important because it reshapes the relationship between the company and its customers, and it allows them to gain competitive advantages, even if its impact differs from one industry to another.

Digital marketing increases the effectiveness and efficiency of traditional marketing, bringing out new business models that will deliver more value to customers and increase company profitability (Strauss & Frost, 2014). Thus, this confirms the findings of many researchers such as Brodie et al. (2007) and Trainor et al. (2011).

Moreover, Adam et al. (2009) spoke about the distinction between the two marketing practices, which are digital marketing and traditional marketing, with an effect of the latter only on financial performance, while digital marketing has a positive effect on both business and marketing performance.

On the other hand, we point out that Brentani and Kleinschmidt (2004) found that certain dimensions that define the behavioral environment of the company, namely organizational culture and the commitment of the

company's management, have a direct link with the performance of new innovative products. This commitment of the management is defined by them as the degree, positive or proactive attitudes, to which the management supports the process of developing new products by allocating the necessary resources and capital.

Understanding the impact of the implementation of digital marketing within Moroccan companies on their business performance is our main objective. Thus, we wish to empirically verify the impact of the top management support and the digital marketing use on the business performance in the Moroccan market more particularly in the northern region. Consequently, our conceptual model a priori is presented as follows:

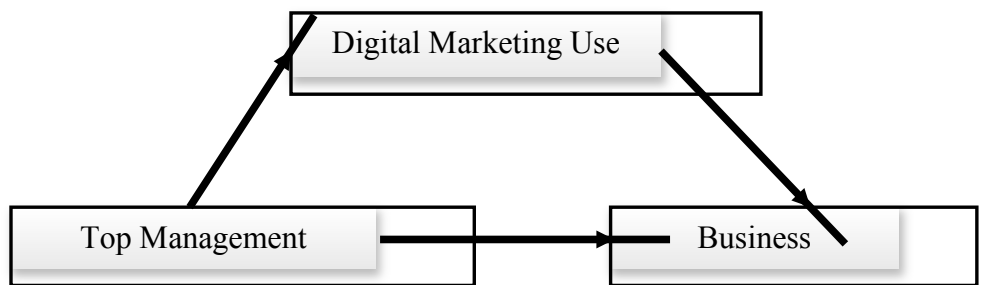


Figure 1. Conceptual model

Methodology

This research is set up from empirical research with directors and sales managers and other executives within companies in the northern region of Morocco, respecting the steps of the Churchill paradigm.

The figure below shows the different phases of the Churchill paradigm approach:

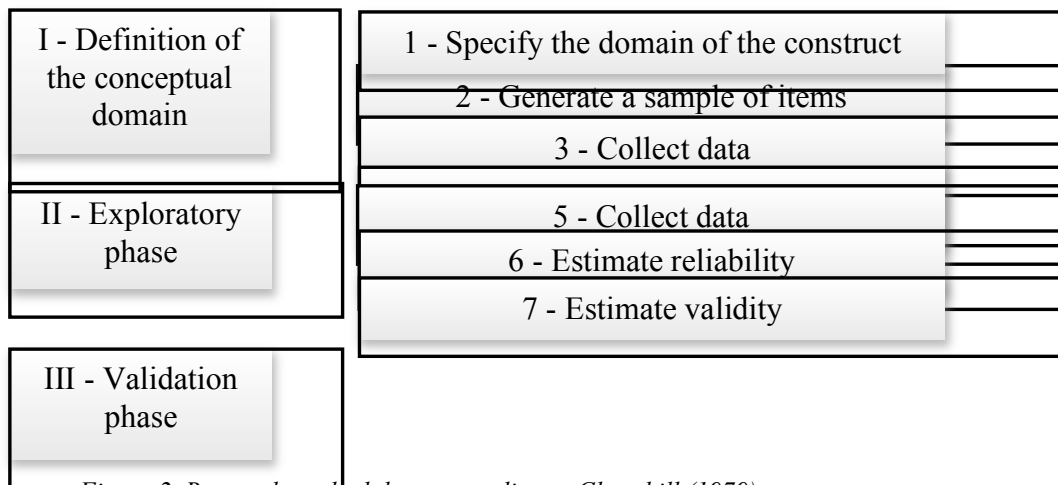


Figure 2. Research methodology according to Churchill (1979)

Our paper aims to carry out two empirical phases in order to study the impact of digital marketing on the business performance of companies in the northern region of Morocco:

The Quantitative Exploratory Phase: It is conducted by a survey administered by a questionnaire. Data are collected from a sample of 120 companies in the northern region of Morocco which are subject to purification through exploratory factorial analysis methods including Principal Component Analysis (PCA). Also, the result of this purification will be presented. Note that this step is necessary to assess the psychometric quality of the scales used to collect the data and is a fundamental prerequisite for applying the regression method. These analysis were performed using SPSS 25 software.

The Quantitative Confirmatory Phase: A final step is the validation of the hypotheses using the SMART PLS 3 software using both simple and multiple linear regression methods. As a result of the hypothesis testing presentation, the discussion of the results will be addressed.

The questionnaire was tested on a sample of 30 respondents to ensure that they fully understand the questions and are not likely to refuse to answer. The final version of the questionnaire, measuring all items (19 items) on a five-point (Likert) scale, was administered to 281 target respondents. 126 were returned completed for an initial response rate of 44.84%. Of these 126 responses, six (6) responses were unusable due to missing data, and therefore the actual response rate is 42.70%. Ultimately, data from 120 companies in the northern region of Morocco could be processed.

Table 1. List of variables and number of research items

Variables	Items	Authors
Marketing Digital Use	9	(Brodie et al., 2007) (Sheikh et al., 2018)
Top Management Support	4	(Brodie et al., 2007) (Chavey, 2010) (Morgan, 2012) (Trainor et al., 2011)
Business Performance	6	(Germann et al., 2013) (Sheikh et al., 2018)

With regard to the characteristics of the companies in our sample, we focus more specifically on the legal status, size, and business lines of companies in the northern region of Morocco.

Table 2. Companies' profile

Companies' characteristics	Frequency	Percentage
<i>Legal status</i>		
• SA	25	21%
• SARL	89	74%
• SNC	2	2%
• Others	4	3%
<i>Workforce</i>		
• Less than 10	12	10%
• Between 10 and 100	18	15%
• Between 100 and 250	60	50%
• More than 250	30	25%
<i>Activity area</i>		
• Services	24	20%
• Manufacturing	77	64%
• Construction	3	3%
• Trade	10	8%
• Others	6	5%

Based on the information collected, we distinguish within our sample divided into 89 companies with the legal status of "limited liability company", 25 companies with the legal status of "public limited company", 2 companies with the legal status of "general partnership", and 4 other types of companies such as family and associative that use digital marketing.

The second part of the table reveals that 25% of companies in the northern region of Morocco correspond to large companies with more than 250 employees. Small and medium enterprises represent 50% of the sample against 25% for very small companies.

In the third part of the table on the distribution of firms by activity, we found that 64% of firms located in the northern region of Morocco refer to industrial firms, 20% to service firms, 8% of firms carry out trade, and 4% of firms specialize in construction.

As part of the characteristics of the respondents interviewed, we describe the positions held and their experiences.

Table 3. Respondent's profile

<i>Respondent's characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Position</i>		
• Marketing manager	57	47,5%
• Business manager	36	30%
• General manager	9	7,5%
• Others	12	10%
<i>Seniority</i>		
• 0 - 1 year	10	8%
• 2 - 5 years	74	62%
• 6 - 10 years	20	17%
• 11 years and over	16	13%

A reading of the second table of the distribution of respondents working in companies in the northern region of Morocco indicates that 37% of respondents are marketing managers, 30% are sales managers, 10% are executives, and 8% are general managers.

Marketing and sales managers are the people who practice digital marketing to improve the business performance of their companies.

We note from the second part of the table that 62% of respondents working in companies in the northern region of Morocco have between 2 and 5 years of experience, 17% have an experience of 6 to 10 years, and finally 13% of respondents have an experience of more than 11 years.

Data Analysis and Results

In this section, we present the results and analysis of our empirical study, which involves two important steps, exploratory factor analysis and confirmatory factor analysis.

Regarding the empirical study, we refer to a sample of 120 firms in the northern region of Morocco, subjected to a few steps in a first stage. Thus, the exploratory factorial analysis was carried out using SPSS 25 software for the purpose of purifying the items of our research model.

In the second step, the confirmatory factorial analysis carried out using the structural equations method and SMART PLS 3 software leads us to test the hypotheses of our study, and to validate our research model.

1. Exploratory Factor Analysis

This section presents the analysis of the results of our empirical study, which includes the two explanatory variables (Use of digital marketing and

Top Management Support) and the variable to be explained (Business Performance).

We began with an exploratory factorial analysis in our empirical study using SPSS 25 software, which allowed us to perform a purification on the items of each variable studied.

Table 4. Results purification of the scale of measurement of the variable "Digital Marketing Use"

Variable	List of items	Number of items	Quality of representation	Factor contribution	Reliability
				Component 1	
Digital Marketing Use	UDM1	9	0,648	0,805	0,934
	UDM2		0,705	0,840	
	UDM3		0,611	0,782	
	UDM4		0,689	0,830	
	UDM5		0,618	0,786	
	UDM6		0,599	0,774	
	UDM7		0,622	0,789	
	UDM8		0,677	0,823	
	UDM9		0,736	0,858	
Own value				5,905	KMO = 0,855 P= 0.000 N= 120
Bartlett test: Significant				Varimax	
Variance explained in %				65,60%	

Table 5. Results purification of the measurement scale of the variable « Top Management Support »

Variable	List of items	Number of items	Quality of representation	Factor contribution	Reliability
				Component 1	
Top Management Support	TMS1	4	0,799	0,894	0,923
	TMS2		0,811	0,901	
	TMS3		0,828	0,910	
	TMS4		0,817	0,904	
Own value				3,255	KMO = 0,854 P= 0.000 N= 120
Bartlett test: Significant				Varimax	
Variance explained in%				81,37%	

Table 6. Results purification of the scale of measurement of the variable « Business Performance »

Variable	List of items	Number of items	Quality of representation	Factor contribution	Reliability
				Component 1	
Business performance	CP1	6	0,762	0,873	0,953
	CP2		0,802	0,895	
	CP3		0,783	0,885	
	CP4		0,810	0,900	
	CP5		0,822	0,907	
	CP6		0,885	0,941	
Own value				4,864	KMO = 0,869 P= 0.000 N= 120
Bartlett test: Significant				Varimax	
Variance explained in %				81,06%	

An exploratory factor analysis using SPSS 25.0 was performed on the three variables in the model. Varimax rotation was used to determine the number of component factors (Manning & Munro, 2007). Items with communities less than 0.4 and items with factor loadings greater than 0.3 on more than one component were removed from the measurement scale (Roussel, 2005).

The final results of the exploratory factor analysis provided in the three tables show a single factor structure for each variable.

In terms of quality of representation, the results indicate that all items for the three variables have a commonality greater than 0.5.

These results indicate that all scales are unidimensional, meaning that all items are assumed to measure a single underlying construct (Hair et al., 2006). In addition, all Cronbach's alpha values are greater than 0.9 and meet the recommendation of Roussel (2005).

Finally, we can distinguish that all the items of the three variables meet the scientific standards in management science.

2. Confirmatory Exploratory Analysis: Structural Equation Method

Our following conceptual model is composed of three variables, and its relationships have been declined in the form of hypotheses. Here, we will try to validate them in this section.

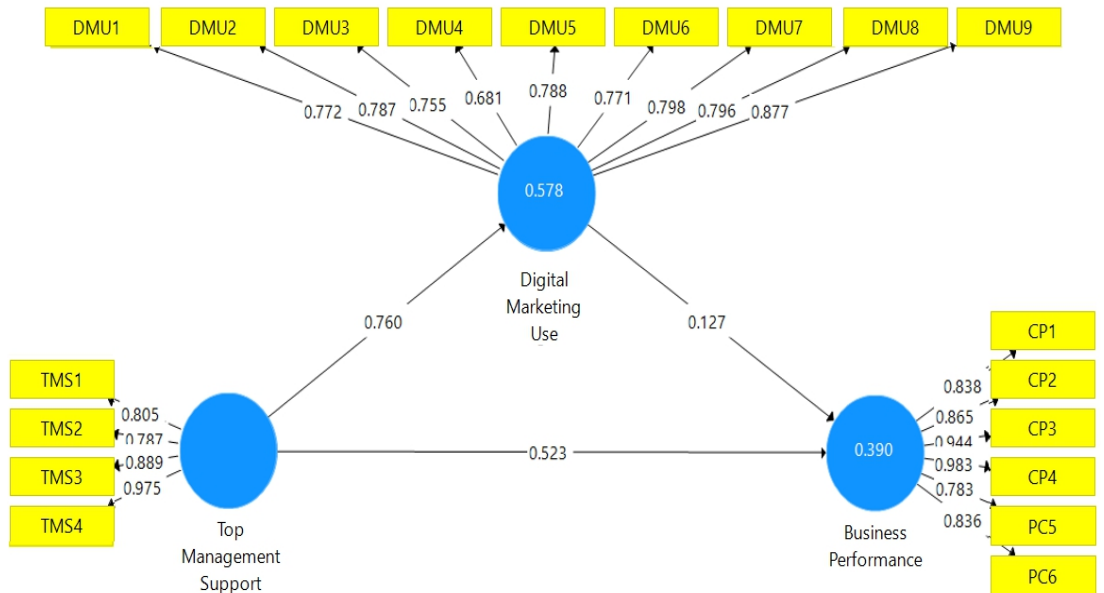


Figure 3. The adjusted structural model (using Smart PLS Software)

There are four elements to the validity of the measurement model: cronbach's alpha, Rho_A, Composite reliability, and AVE.

According to the Table 7, we can see that all the variables met the accepted value at the level of cronbach's alpha, rho_A, composite reliability, and AVE and exceeded 0.6 and met the accepted value or the recommendations of the authors (Hair et al., 2014; Tenenhaus, 1999; Michel Tenenhaus et al., 2005).

Convergent validity is affirmed when each construction has an AVE's greater than 0.5 (Hair et al., 2014; Tenenhaus, 1999; Michel Tenenhaus et al., 2004).

The results provided in Table 7 show that the AVE's are 0.6 higher. This means that convergent validity is demonstrated.

Table 7. Validity of the measurement model

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Business Performance	0.953	0.956	0.952	0.770
Top Management Support	0.924	0.931	0.923	0.752
Digital Marketing Use	0.934	0.936	0.934	0.612

2.1 Multicollinearity of the Variables in our Research

Discriminant validity is asserted when each element has an element loading greater than 0.7 on its respective construction (Hair et al., 2011), especially when the square root of all constructions is greater than all other extracted mean variances (AVE) cross-correlations, and no element is highly loaded on another construction.

The results also show that the values on the diagonal are greater than all the values on the lower part of the diagonal, which asserts discriminant validity.

It is also clear that the elements are strongly correlated with their corresponding construction and weakly correlated with other constructions. This confirms the discriminant validity of the measurement scales (Tables 8 and 9).

Table 8. Represents the result of the regression (Discriminant Validity)

	Business Performance	Top Management Support	Digital Marketing Use
Business Performance	0.877		
Top Management Support	0.619	0.867	
Digital Marketing Use	0.524	0.760	0.782

The presence of strong correlations above a threshold of 0.70 indicates the existence of multicollinearities that may affect the regression results (Jolibert & Jourdan, 2006).

Table 9. Correlation matrix and the square root of the AVE

	Business Performance	Top Management Support	Digital Marketing Use
CP1	0.838		
CP2	0.865		
CP3	0.944		
CP4	0.983		
CP5	0.783		
CP6	0.836		
MTS1		0.805	
MTS2		0.787	
MTS3		0.889	
MTS4		0.975	
DMU1			0.772

DMU2			0.787
DMU3			0.755
DMU4			0.681
DMU5			0.788
DMU6			0.771
DMU7			0.798
DMU8			0.796
DMU9			0.877

The values of the square root of the AVE shown diagonally in Table 9 are acceptable. Thus, we found that all reliability coefficients are satisfactory and are greater than and equal to 0.6.

The principle of the independence of the explanatory variables must be respected (Evrard et al., 2003). We present the variance inflation factor (VIF for Variance Inflation Factor), which must be less than 3 (Carricano & Poujol, 2008) or 4 (Evrard et al., 2003).

Based on the results, we found that the VIF of only two items in the "Business Performance" variable were 4 higher than CP5 and CP6, and did not meet the recommendations of the authors mentioned above.

In this case, we decided to remove the two items from the "Business Performance" variable, in order to have the only items that met the recommendations of the authors mentioned above.

Table 10. Threshold of the VIF index of items

	VIF
CP1	3.053
CP2	3.528
CP3	4.000
CP4	3.874
MTS1	2.950
MTS2	3.077
MTS3	3.353
MTS4	3.211
DMU1	2.457
DMU2	3.252
DMU3	3.168
DMU4	3.617
DMU5	3.199
DMU6	3.204
DMU7	2.707
DMU8	3.198
DMU9	3.630

We noted that the indices mentioned above meet the thresholds recommended by the authors (Carricano & Poujol, 2008; Evrard et al., 2003).

2.1.Predictive Validity of the Model

2.1.1. Tests of the Causal Relations of the Conceptual Model

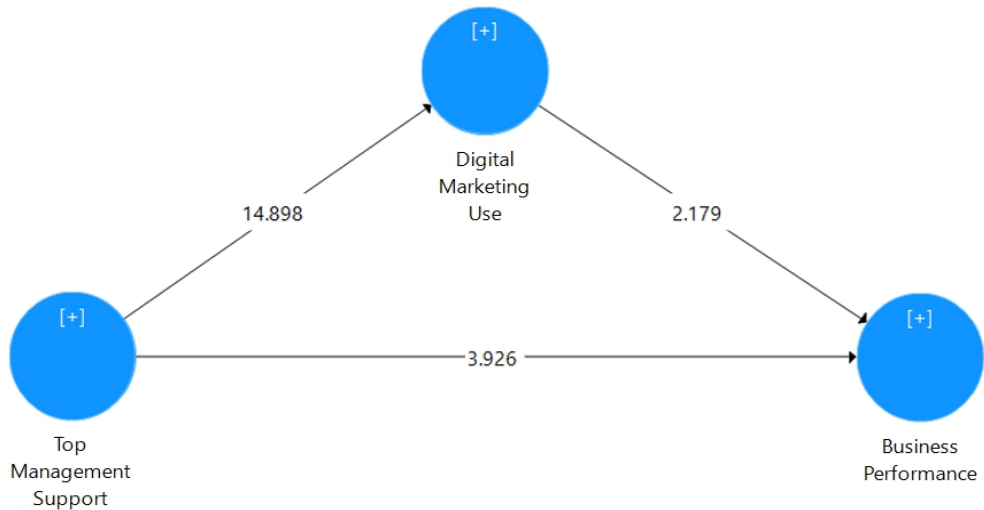


Figure 4. The fitted structural model (Bootstrap)

At the level of the structural model, we evaluated the R2 coefficient of determination and, according to our analysis, we found that our R2 is moderate.

Table 11. Validity of the measurement model (R.Square)

	R Square
Business Performance	0.427
Digital Marketing Use	0.577

Chin (1998) suggests that R-squared values of 0.67, 0.33, and 0.19 in PLS-SEM can be considered substantial, moderate, and low, respectively.

Chin (1998) suggested that R2 values above 0.67 were considered high, values between 0.33 and 0.67 were moderate, values between 0.19 and 0.33 were low, and R2 values below 0.19 were unacceptable in PLS-MES.

For R2 in our model is equal to 0.427, which shows that our model is moderate.

The size effect is presented as follows:

Table 12. F² value of exogenous latent variables

	Business Performance	Top Management Support	Digital Marketing Use	Result
Top Management Support	0.173		1.367	Significant
Digital Marketing Use	0.030			Moderate effect

F² values were found to be greater than 0, illustrating that each predictor takes part of the dependent variable. However, the size effects vary between low and medium and is significant for the variable "Use of digital marketing" and "Top management support", respectively.

The quality of the size effect for the two variables "Digital marketing use" and "Top management support" is respected according to the recommendations of Croutsche (2009), Henseler et al. (2009), and Tenenhaus (1999).

The calculation of model quality is as follows:

$$GoF = \sqrt{(R^2 \times AVE)}$$

According to the criteria of Wetzels, Odekerken-Schröder, and Van Oppen (2009), we found that the value of the GoF is equal to **0.598**, and we can conclude that the GoF model of this study is high and important enough to consider a sufficient validity of the PLS model.

Table 13. Results of Structural Model Estimates on the Overall Sample

Hypothesis	Path coefficients (Mean, STDEV, T-Values)					Description
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	
Top Management Support -> Business Performance	0.435	0.447	0.111	3.926	0.000	Accepted
Top Management Support -> Digital Marketing Use	0.709	0.708	0.048	14.898	0.000	Accepted
Digital Marketing Use -> Business Performance	0.225	0.218	0.103	2.179	0.030	Accepted*

Significant to P* < 0.05, T > 1.90

The main empirical results of the research for all data show that top management support has a significant positive effect on business performance (coeff. = 0.435; p < 0.01) and that top management support has a significant positive effect on the digital marketing use (coeff. = 0.709; p <

0.01). In addition, we found that the digital marketing use has a positive effect on business performance (coeff. = 0.225; $p > 0.01$).

3. Research Results and Discussion

The analysis of the empirical study data yielded a very important result. This result concludes three validated hypotheses.

Table 14. Research Hypothesis Results

Hypothesis	Statement of the hypothesis	Result	Results similar to the literature
H1	Top management support has a positive impact on business performance.	Validated	(Ferhane, 2019; Sheikh et al., 2018; Germann et al., 2013; Brentani & Kleinschmidt, 2004).
H2	Top management support has a positive impact on the digital marketing use.	Validated	(Ferhane, 2019; Trainor et al., 2011; Brodie et al., 2007; Brodie et al., 2007; Brentani & Kleinschmidt, 2004).
H3	The digital marketing use has a positive impact on business performance.	Validated	(Ferhane, 2019; Sheikh et al., 2018; Strauss & Frost, 2014; Day, 2013; Trainor et al., 2011; Adam et al., 2009; Brodie et al., 2007; Simpson, 2007)

In summary, there is no much difference between the number of items before and after the analysis of the structural equations, with the exception of the number of items of the "Business Performance" variable, which decreased by two items at the purification level in order to improve the structure of the model.

Table 15. Summary of analysis of structural equations

Variables	Number of items before the analysis of structural equations	Number of items after analyzing structural equations	Cronbach's alpha
Digital Marketing Use	9	9	0.934
Top Management Support	4	4	0.924
Business performance	6	4	0.925

Conclusion

Today, the web has become the main place where information is disseminated, and it is indeed Internet users who publish the vast majority of this information. Most Moroccan companies have relatively well assimilated the challenges of a presence on the new media, but are not yet able to exploit digital technology at its true value.

In today's world, companies are exposed to increasingly tough and permanent competition and are driven to streamline, optimize, and automate their processes by relying on digital technology. This would enable them to gain in productivity and profitability differentials and to defend their acquired positions within the competition (Mebarki, 2013, p. 114). Today, no company can depart from the use of digital technology at the risk of compromising its performance.

The objective of this research was to explain the degree of digital adoption in Moroccan companies by questioning its impact on business performance.

Like all scientific research in Management, our work has some methodological limitations. For example, the subject has not captured details about the use of digital marketing across different industries or sectors. Different industries experience a set of dynamics and challenges that can change the impact of digital marketing on different companies.

We also focused on a few studies that did not highlight the risks and dangers that digital marketing poses to Moroccan businesses. Information on the risks, challenges, and obstacles to implementing digital marketing has therefore not been highlighted despite its importance. Future research on this topic should expand research on the risks and challenges presented by digital media to help companies overcome the unique challenges that compromise their ability to succeed in digital marketing.

In conclusion, this work allowed us to answer our research question by explaining the practices of digital marketing and by studying the impact of digital marketing on the business performance of companies in the northern region of Morocco. It also helps to highlight the importance of digital marketing in improving business performance.

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Strategic Thinking and Performance of Small and Medium-Sized Dairy Processing Firms in Kenya

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Abstract

The dairy sector plays a crucial role in economic growth and development of Kenya. However, many firms in the sector, especially the small and medium-sized, continue to face performance challenges such as competition from unregulated informal milk market, accessing markets and high industry barriers among others. A review of literature shows that the effect of strategic thinking on the performance of small and medium-sized dairy processing firms remains uncertain. This study sought to determine the effect of strategic thinking and performance of small and medium-sized dairy processing firms in Kenya. The study was anchored on the Leidtka Model. Positivism research philosophy was adopted. Descriptive and explanatory research designs were used. A census survey was conducted on all the small and medium-sized dairy processing firms in Kenya and primary data was collected. Descriptive statistics such as mean and standard deviation were used to explain data characteristics, while multiple regression was used to test the effect of the study variables on firm performance. The results showed that strategic thinking has a positive significant effect on the performance of small and medium-sized dairy processing firms in Kenya, thus it was perceived that strategic thinking aids creation of a path for what the firm wants to become through focusing on their intent, systems, timely thinking, intelligent opportunism and hypothesis-driven research. The study contributes to the body of knowledge by filling contextual, empirical, and conceptual gaps identified earlier in literature and establishing a nexus of strategic thinking and performance of small and medium-sized dairy processing firms in Kenya. The study recommends that strategic thinking should be enhanced particularly by using research to inform their decision-making

and practice quick decision-making to mitigate or exploit opportunities while thinking of possible solutions to unexpected challenges.

Keywords: Strategic thinking, Firm performance, Small and medium-sized dairy processing firms

1. Introduction

Strategic thinking expresses the capability of leaders to be creative in dealing with opportunities or threats, weaknesses and strengths facing the firm. Strategic thinking is a process whereby the top management of a firm create paths for what the firm desires to become (Olaniyi & Elumah, 2016). Carter and Greer (2013) indicate that strategic thinking is the root of the strategy aimed at providing a clear course of action for the organization by focusing on a phenomenon, how it should happen and how it unfolds. Strategic thinking may also be viewed from the perspective of a pre-planned action that is meant to improve a firm's performance (Emran & Emamgholizadeh, 2015). In exploring the strategic thinking paradigm, Liedtka (1998) argues that strategic thinking contains five elements, which are, systems perspective, intent focus, intelligent opportunism, thinking in time and hypothesis-driven perspective. A systems perspective involves a firm's attempt to describe the structure in which it exists through the collection of the right information and prioritizing the features of the structure that may influence its operations in the present time and in the future.

The strategic intent, (also known as the intent focus) allows persons in a firm to direct their attention towards the firm's goals, resisting distractions and concentrating on firm goals until they are achieved, (Casey & Goldman, 2010). According to Liedtka (1998), thinking in time involves the connection of the past to the present and the future and also learning from the past, then using what was learned to make predictions to assess the gap between the present and the future. Intelligent opportunism focuses on the ability to notice and exploit opportunities. The hypothesis-driven perspective involves generating questions that enables a firm to envisage various scenarios, analyse them grounded on their accumulated knowledge and then the best hypotheses or experiment is assessed.

Small and medium-sized dairy processing firms need strategic leaders who scan both their internal and external environments, understand the systems that are likely to affect their future operations, and thus focus their energies towards achievement of goals while consecutively taking lessons from past experiences to forecast the future. Also, these small and medium-sized dairy processing firms need strategic leaders who can detect and exploit opportunities as they emerge and critically evaluate such opportunities based on previously acquired knowledge and experiences. For this reason, the study

adopts the Liedtka (1998) five elements: systems perspective, intent focus, intelligent opportunism, thinking in time and hypothesis-driven thinking model to operationalise strategic thinking.

2. Statement of the problem

The dairy industry in Kenya according to KDB (2015), is one of the best industries in Africa, with thirty milk processors with a range of products and contributing four percent of Kenya's Gross Domestic Product (GDP). The sector in Kenya has metamorphosed from a monopolistic market owned by the Kenya Government through Kenya Co-operative Creameries (KCC). The cooperative system significantly led to the development and growth of KCC which monopolised the market until 1992, when the industry was liberalised, (Wambugu, Kirimi & Opiyo, 2011). This led to an influx of privately-owned dairy processing firms, many being small-scale processors.

Since the liberalization, the number of dairy processing firms increased from KCC to 30 by December 2018. Of these 30 firms, there are 7 large dairy processing firms while the rest are medium to small dairy processing firms. According to the Kenya Dairy Board (2018), firms that process over 40,000 litres of milk per day are considered large, between 20,000 litres and 40,000 litres are medium-sized while those that process less than 20,000 litres but more than 1,000 litres daily are categorised to be small dairy processing firms. The small and medium-sized dairy processors in Kenya are however, being predated by the large companies. For instance, Brookside dairy that processes 750,000 litres of milk daily, has organically grown from a small dairy in 1993, and acquired other processors such as Delamere Dairy, Ilara Dairy, Buzeki Dairy and Spin Knit Dairy (Food Business Africa, 2015). This dominance and predation have made it difficult for small processors to thrive through the competition to become large companies. Additionally, the predation has led to an increase in processors owning milk sources from farms to factories, acquiring, distributing and get into retail spaces in the major outlets. As such, the industry is increasingly becoming a heavy investment industry, with the smaller players being pushed out of business by the large processors who have access to internal and external sources of funds. This means that the industry is gradually erecting barriers of entry that younger firms will be unable to crack, and more medium processors being bought out (Kraja and Osmani, 2013).

Despite the crucial role of the dairy sector in economic growth and development of Kenya, several firms in the sector, especially the small and medium-sized, continue to face performance challenges (Wambugu & Kimuyu, 2017). Staal, Pratt and Jabbar, (2008) indicate that a poorly managed formal milk market fails to provide an effective link between farmers and consumers as compared to the informal milk market, thus implying a poor performance of small and medium-sized dairy processing

firms. According to Kariuki, Iravo and Kihoro, (2015), the unregulated informal milk market sells approximately 56% of the 70% of the country's marketed milk. The remaining 14% is sold by registered milk processing firms, out of which 85% is processed by five large processing firms' processing more than 100,000 litres daily. These dairies consist of Brookside Dairy, New KCC, Githunguri Dairy Farmers Co-operative Society, Sameer Agriculture and Livestock, and Countryside Dairy. This leaves only 15% for small and medium-sized dairy firms to process, despite their large numbers. This not only reflects a dismal performance in terms of efficiency and effectiveness of the small and medium-sized dairy processing firms but also a reduced market share.

Several studies have been carried out on the relationship between strategic thinking and performance.—The conceptualization of strategic thinking has varied from study to study where some have operationalized it through conceptual thinking, systematic approach, cognition, and opportunism among others (Mahdavian, Mirabi & Haghshenas, 2014; Ali, 2015; Ohola, 2016). Additionally, the studies have been conducted in other countries and contexts (Salih & Alnaji, 2014; Mahdavian, Mirabi & Haghshenas, 2014; Ali, 2015; Olaniyi & Elumah 2016), while others have related strategic thinking to variables such as strategic agility, the sustainability of strategic thinking, transformational leadership, strategic management practices and not firm performance (Salih & Alnaji, 2014; Mahdavian, Mirabi & Haghshenas, 2014; Ali, 2015; Ohola, 2016). The methodology used has also varied (Ali, 2015; Ohola, 2016). As such, this study establishes the existence of contextual, conceptual and empirical gaps in literature. This study therefore sought to fill these gaps by investigating the effect of strategic thinking on performance of small and medium-sized dairy processing firms in Kenya.

3.Literature review

3.1 Theoretical Literature review

Strategic thinking is viewed from different perspective to mean thinking about strategy (Wilson, 2010), a way of thinking with precise and noticeable characteristics (Mintzberg & Lampel, 1999). Similarly, Stacey (1992) views strategic thinking as the use of analogies and qualitative connections in the development of new creative ideas and formulating actions from new knowledge perspectives. From this point of view, strategic thinking is deduced to involve thinking and taking action based on specific suppositions and possible action options, and challenging assumptions and actions that are in existence which lead to the creation of newer and more suitable choices, (Schoemaker, Krupp & Howland, 2013).

Leidtka (1998) developed a strategic model based on the Mintzberg (1994) model and viewed strategic thinking from five perspectives, that is,

systems perspective, intent focus, intelligent opportunism, thinking in time and hypothesis-driven perspective.

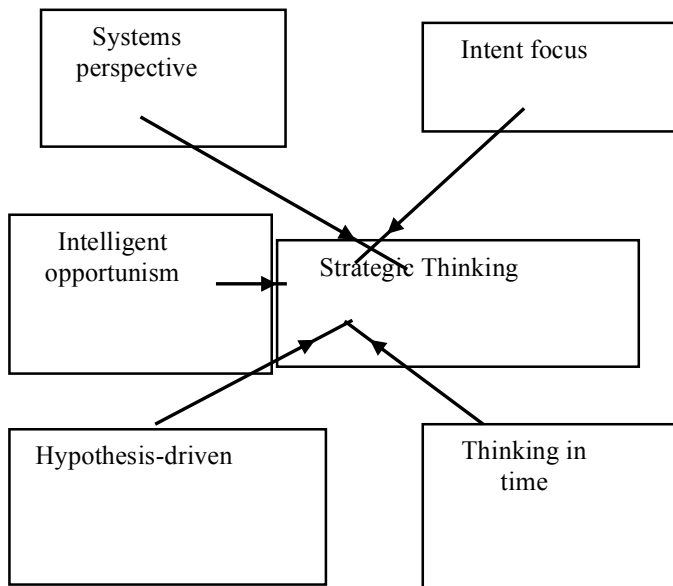


Figure 1: The Leidtka Strategic Thinking model

Source: Leidtka (1998)

According to the model, systems perspective sees a strategic thinker as one with a mental model of creating value from the beginning to the end with a clear understanding of the existing interdependencies within the value chain. In this sense, the leader has to include the understanding of the firm's external and internal environments that facilitates innovation (Serfontein, 2010). Consequently, the strategic thinker stays open to emergent prospects. Strategic intent on the other hand, is about a particular viewpoint of the market in the long-term and the competitive edge which a firm intends to create (Feyzollah & Saeid, 2015).

Intelligent opportunism involves being open to novel experiences that enable a firm yield advantages of alternate strategies which emerge that are more applicable to a dynamic business environment. According to Mintzberg (1999), this tactic is underscored by the contrast between the emerging and deliberate strategies. However, Serfontein (2010), points out that connecting the present and the past, and linking that with the future, is thinking in time. Hypothesis-driven thinking involves embracing a hypothesis and testing the core activities as well as raising queries which lead a firm to contemplate and analyse different scenarios. Liedtka (1998) points out that strategic thinkers stay open to emergent opportunities and firms which can include a capacity for thinking strategically in the entire firm, will have generated a different basis of competitive advantage. To support strategic thinking in this study, the Liedtka model was used and measured in terms of intent focus, systems

perspective, timely thinking, intelligent opportunism, and hypothesis-driven perspective.

3.2 Empirical Literature review

Salih and Alnaji (2014) aimed to study the connection between strategic thinking, strategic agility, and strategic performance. The study was carried out in Jordanian insurance companies. The results indicated that strategic agility and thinking effect the performance of insurance companies of Jordan. Similarly, Olaniyi and Elumah (2016) employed the Pearson moment correlation coefficient to find out the link between strategic thinking and firm performance and found that a positive relationship exists between strategic thinking and firm performance. However, it was observed that the strongest link was in the relationship between strategic thinking and strategic performance was mediated by strategic agility.

Mahdavian, Mirabi and Haghshenas (2014) sought to determine the impact of strategic thinking on the performance of Mashhad municipal managers. Analysis of data was done following descriptive statistics while correlation analysis was used for inferential analysis. The statistical population for this study included all the 90 senior managers of Mashhad Municipality. The outcome of the research was that strategic thinking operationalised through conceptual thinking, systematic approach, foresight, opportunism, cognition and transformational leadership improved performance among municipal managers of Mashhad City. The findings of the study apply to the current study even if they concentrated on the direct association of concerning strategic thinking and occupational performance.

Ali (2015) studied the role of sustainability in strategic thinking. The study was carried out in Norway in the ship building industry. The study aimed at reducing the gap between the process of strategic thinking and sustainability. A case study approach was used, and the collection of data was done through interviewing method. The findings indicated the need for innovation in the methods used in production for improved performance on both financial and environmental aspects. The study leaned more on innovative production concepts which are potentially applicable in the industry. However, the study differs in the methodological dimension in that a case study was used. Additionally, strategic thinking was considered as a dependent variable while it is an independent variable in the current study. Congruently, Ohola (2016), through a case study, carried out a research on strategic thinking and strategic management practices by Boogaart Betonpompen in Holland. Data collection was done by use of an interview guide on the Chief Executive Officer. It was established that strategic thinking influences strategic management practices at the company and that the employees are key in the process of strategy. The importance of

flexibility in adapting to new developments in the environment was seen in the results. The importance of emergent strategies in effective decision-making was also seen. The findings established the importance of scanning the environment keenly and continuously and using real-time information in decision-making. A discussion of the study's result showed a link concerning strategic thinking and strategic management practices. However, the study varies from the current study in that a case study was used and only the Chief Executive Officer was interviewed, thus could suffer from a single source for information. The current study is a cross-sectional survey and managerial level leaders are the respondents.

From the reviewed theoretical and empirical literature, the current study established that there is limited literature on strategic thinking especially in the Kenyan context. Although the studies gave an insight to the various strategic thinking variables that affect performance, the studies were majorly carried out in the developed countries with differing methodologies (Ali, 2015; Ohola, 2016). The conceptualization of strategic thinking was also varied (Salih & Alnaji, 2014; Mahdavian, Mirabi & Hagshenas, 2014; Olaniyi & Elumah, 2016). From the varied and vast literature review conducted, the conceptual framework in Figure 2 was developed.

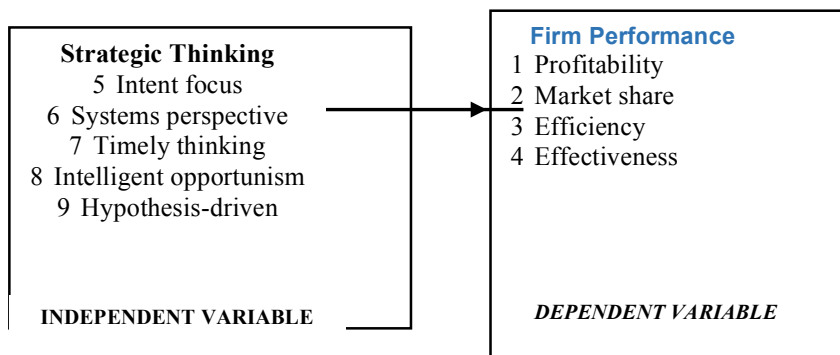


Figure 2: Conceptual Framework

Source: Author (2019)

Figure 2 illustrates the conceptual framework developed from reviewed literature. Strategic thinking is the independent variable, while firm performance, measured through profitability, market share, efficiency and effectiveness. The study hypothesised that:

H₀₁: Strategic thinking has no significant effect on performance of small and medium-sized dairy processing firms in Kenya.

4. Research Methodology

Research philosophy is a belief about ways that data on a phenomenon should be collected, analysed and used, (Bajpal, 2011). Epistemology is the study of the development of knowledge that is acceptable in a field of study, (Bryman, 2012). This study was guided by a positivism epistemological research philosophy. The positivist research philosophy enables researchers to empirically test hypotheses to establish facts, (Koul, 2008). This research philosophy is found applicable since the study tests a hypothesis to form decisions on the relationships existing amongst the variables under study. Further, the positivism philosophy involves working with observable social realisms and quantifiable observations whose results can be generalised, and allows use of structured methodology to allow replication, (Saunders, Lewis & Thornhill, 2009). Additionally, the positivism philosophy upholds factual and non-abstract knowledge therefore predictions on knowledge are based on what is observed and experimented (Robson & Neuman, 2014). In line with this postulation, this study collected factual data which was analysed using available models to extract their meaning to confirm or disapprove the existing knowledge. As outlined in the philosophy, the findings of the current study are grounded on quantitative data from small and medium-sized dairy processing firms in Kenya.

The study used both cross-sectional survey and explanatory research designs as recommended by Saunders, Lewis and Thornhill (2009). Cross-sectional survey design is used for descriptive research and allows the collection of large amounts of data economically from a sizeable population through questionnaires at a time. Additionally, Kothari (2004) indicates that a cross-sectional survey is concerned with hypothesis construction and testing and can be used in a census survey, which is used in the current study. Sekaran and Bougie (2016) highlight that explanatory research design is used in the assessment of the consequence of certain variations of a norm or process while focusing on the analyses of a situation or problems to illustrate the linkages in variables. As noted by Saunders (2011), explanatory study establishes causal relationships between variables. Sekaran and Bougie (2010) note that explanatory research design is used in assessing the effect of precise changes on prevailing processes and focuses on analysis of a situation or problem to explain relationship patterns between variables. Based on these reasons, the explanatory research design was found suitable in identifying the degree and feature of cause and effect relationship present between strategic thinking and performance of small and medium-sized dairy processing firms in Kenya.

The targeted population was all the 23 small and medium-sized dairy processing firms in Kenya as registered by the Kenya Dairy Board of Kenya as of December 31, 2018. A census survey of all the 23 small and medium-sized dairy processing firms registered by the Kenya Dairy Board was used.

Four functional areas from each of the small and medium-sized dairy processing firms were identified consisting of the Chief Executive Officer, finance manager, marketing manager and production manager. The total sample size was therefore 92 respondents. Primary data was collected by the use of self-administered questionnaires administered using the drop-and-pick-later method as recommended by Mugenda (2008). According to Lewis (2015) questionnaires are preferred in data collection because information can be collected from a large portion of a population. In addition, they enable the examination and explanation of relationships between variables. Goodman, Cryder and Cheema (2013) advocate the use of questionnaires because they enable the collection of data in a relatively short time, at a lower cost, and enable the generation of findings that are representative of the whole population. In order to give adequate time for responses, questionnaires were dropped and picked from respondents according to recommendations by Lewis (2015). Research assistants booked appointments with respondent's firm's prior to meeting the respondents for questionnaire administration. The research assistants administered the questionnaires to respondents to establish rapport, clarify the reason for the research and make any other clarifications that may have been necessary, as guided by recommendations by Mugenda (2008). The research assistants who were engaged in data collection were trained on creation of rapport with the respondents and how to convince the respondents to give relevant data and how to seek clarifications where needed.

The questionnaire had both open-ended and closed questions. The closed questions were used since they let respondents respond from few stated options. The closed or structured questions were also preferred since they are generally easier to evaluate (Lampard & Pole, 2015). The closed questions were of a five-point Likert scale format as recommended by Boone and Boone (2012) and Kuen (2012). To encourage respondents to give deeper responses, open-ended questions were used to get any information not highlighted in the closed questions. This was based on recommendation by Saunders (2011), that open-ended or unstructured questions permit respondents to give thoughtful responses.

Pilot test data from the sample of 10 employees in selected dairy processing firms was used in testing reliability of the questionnaire. The purpose of the pilot test was to establish face and content validity of the questionnaire in conjunction with the opinions sought from professionals and experts in the field of investigation as recommended by Mugenda, (2008). According to Saunders, Lewis and Thornhill (2009), content validity tests if the research instrument precisely assesses features of variables of the study in conformation with relevant theory. Component Factor Analysis (CFA) was used to test how well the variables of strategic thinking represent the number of constructs. It was found that the Item content Validity Index for

strategic thinking was 0.860. According to Polit and Beck (2006), a content validity index of above 0.80 is considered acceptable and a content validity index equal 1.00 is considered excellent. Overall, the content validity index for the variables was 0.860 which is greater than the threshold of 0.80 indicating that the research instrument was valid. The reliability of the questionnaire was measured through Cronbach Alpha, where a coefficient of greater than 0.7 was accepted as reliable. According to Mugenda (2008), a coefficient of 0.7 is a commonly accepted rule of thumb that indicates acceptable reliability. The results were as shown in Table 1.

Table 1: Reliability Coefficients

Variable	Cronbach's Alpha	
	<i>Cronbach</i>	<i>Alpha</i>
	<i>Coefficients</i>	<i>Remarks</i>
Strategic thinking	0.882	Reliable
Firm Performance	0.934	Reliable
Overall	0.820	Reliable

Source: Research Data (2019)

From these results in Table 1, all the variables had a Cronbach's alpha coefficient greater than 0.7. Therefore, basing on the recommendations by Mugenda (2008), the research instrument was found to be reliable.

Analyses of data was done using both descriptive and inferential statistics. All analyses was aided by the Package for the Social Sciences (SPSS). Descriptive statistics was used to summarise the survey data and included means and standard deviations, while inferential statistics involved regression analysis and was used for testing the hypothesis and drawing conclusions. Inferential data analysis was conducted using Pearson correlation coefficient and multiple regression analysis. Multiple regression analysis was done and interpreted through adjusted R^2 values and p-values at $P < 0.05$ significance level, that is, the results were at 95% confidence level as advocated by Mugenda and Mugenda (2003), since it is the level generally used in business and social research.

5. Descriptive Statistics

The descriptive statistics that summarized the major characteristics of the study variables were mean scores and standard deviation.

5.1 Strategic Thinking

The study sought to establish the extent to which strategic thinking affects the performance of small and medium-sized dairy processing firms in Kenya. The descriptive statistics are presented in Table 2.

Table 2: Descriptive Statistics for Strategic Thinking

	√	Mean	Standard Deviation
The decisions of the firm are informed by research	84	4.38	.820
Current happenings in the industry affect decision-making in the firm	84	4.08	.698
The firm prioritises the organisational structure to influence present and future operations	84	3.71	.900
The firm encourages thinking of possible solutions to unexpected challenges	84	3.60	.899
The firm creates scenarios to assist in making decisions	84	3.51	.898
The firm takes quick advantage of changes in the environment	84	3.18	.906
Past experiences of the firm are considered when making decisions	84	3.06	.912
The firm is open to new experiences	84	3.06	.944
Changes or actions in the firm are suspended until necessary information is gathered	84	2.92	.953
Aggregate mean score and standard deviation		3.50	.881

Source: Survey Data (2019)

Table 2 indicates that the respondents agreed to a large extent that the decisions of the firms were informed by research and that the current happenings in the industry affect their decision-making as indicated by mean scores of 4.38 and 4.08 respectively. The respondents however had varied opinions that decisions of the firm are informed by research as indicated by a standard deviation of 0.820. Also, the respondents agreed to a large extent that the small and medium-sized dairy processing firms prioritise the organisational structure to influence present and future operations, encourages thinking of possible solutions to unexpected challenges and that they create scenarios to assist in making decisions as shown by the respective mean scores of 3.71, 3.60 and 3.51. However, high standard deviations of 0.900, 0.899 and 0.898 indicate that the respondents had variations in their opinions concerning the three aspects.

The study also established that the respondents agreed to a moderate extent that dairy firms take quick advantage of changes in the environment; the firm considers past experiences when making decisions and firms are open to new experiences as indicated by their mean scores of 3.18, 3.06 and 3.06 respectively. On the contrary, these statements had high standard deviations of 0.906, 0.912 and 0.944 respectively, indicating that there were high variations in the respondent's opinions. The respondents agreed to a

little extent that changes or actions in the firm are suspended until the necessary information is gathered, as indicated by a mean score of 2.92 and a standard deviation of 0.953 which indicates a high variation in responses.

Overall, the respondents agreed to a large extent that strategic thinking is present in the small and medium-sized dairy processing firms as shown by an aggregate mean of 3.50. A standard deviation of 0.881 indicates that the respondents had varied opinions on the role that strategic thinking plays in firm performance.

6. Inferential Analysis

The study sought to determine the effect of strategic thinking on performance of small and medium-sized dairy processing firms in Kenya. The corresponding hypothesis stated that strategic thinking has no significant effect on the performance of small and medium-sized dairy processing firms in Kenya. To test this hypothesis, multiple regression analysis was done and interpreted through adjusted probability values (p-values) at $P < 0.05$ significance level. According to Di Leo and Sardanelli (2020), a 0.05 significance level is a conventionally accepted threshold to distinguish significant from non-significant outcomes and the smaller the calculated p-value, the more improbable the null hypothesis will be and vice-versa. The study used an empirical model to test the statistical significance of the relationship between strategic thinking and performance of small and medium-sized dairy processing firms in Kenya. Multiple regression model was used to analyze the effect of the independent variables on the dependent variable. Multiple regression models establish the line of best fit and is an accurate model for describing the relationship between the independent and dependent variables, (Field, 2013). The model was found appropriate since the dependent variable is a continuous variable. The direct relationship between strategic thinking and firm performance was done using the regression model below:

$$\text{Performance} = 0.56 + 0.225 \text{ strategic thinking}$$

The results are shown in Table 3.

	B	Standard Error	Beta		
	Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
(Constant)	.056	.086		.655	.514
Strategic Thinking	.225	.019	.357	11.996	.000

Table 3: Coefficients^a for Multiple Regression

a. Dependent Variable: Performance

Source: Survey Data (2019)

The results in Table 3 show that the adjusted coefficient of multiple determination, $\beta = 0.56$. This means that if all other factors are held constant, the performance of small and medium-sized dairy processing firms would be 0.56. Also, coefficient of strategic thinking is 0.225 meaning that if all other factors are held constant and strategic thinking is increased by a unit, there would be a 0.225 increase in the performance of small and medium-sized dairy processing firms in Kenya. Strategic thinking has a p-value of $0.000 < 0.05$ level of significance. Based on the P-value, the study rejects the null hypothesis and concludes that strategic thinking has a positive significant effect on performance of small and medium-sized dairy processing firms in Kenya. It is also noted that the findings of the study indicate that the T-values for strategic thinking is greater than the T-critical (1.664), calculated at 0.05 level of significance, thus found to be significant in predicting the performance of small and medium sized dairy processing firms in Kenya.

The results obtained in this variable were consistent with Mahdavian, Mirabi and Haghshenas (2014) study that strategic thinking improved performance among managers. Similarly, Ohola (2016) found that strategic thinking influences the strategic management practices of an organisation. Additionally, the findings on this variable are consistent with the provisions of the Liedkta model which views strategic thinking from a different perspective to mean thinking about strategy (Feyzollah & Saeid, 2015). Likewise, Mintzberg (1999) provided that firms that succeed at embedding a capability for strategic thinking throughout their organizations will have created a new source of competitive advantage.

7. Conclusion

The study sought to determine the effects of strategic thinking on performance of small and medium-sized dairy processing firms in Kenya. It was established that strategic thinking has a positive significant effect on the performance of small and medium-sized dairy processing firms in Kenya. Therefore, it was perceived that strategic thinking aids creation of a path for what the firm wants to become. Particularly, the performance of small and medium-sized dairy processing firms is guided by the elements of strategic thinking of intent focus, systems perspective, timely thinking, intelligent opportunism, and hypothesis-driven perspective. The intent focus allows persons in a firm to direct their attention towards the firm's goal, to resist distractions and concentrate on the firm goals until they are achieved. A systems perspective involves a firm's attempt to describe the structure in which it exists through the collection of the right information and prioritizing

the features of the structure that may influence its present and future operations. Thinking in time involves the connection of the past to the present and the future and also learning from the past, then using what was learned to make predictions, and to assess the gap between the present and the future. Intelligent opportunism focuses on the ability to notice and exploit opportunities. The hypothesis-driven perspective involves creating the questions that enables firm to envisage various scenarios and analyse them grounded on their accumulated knowledge.

8. Recommendations

Small and medium-sized dairy processing firms in Kenya face a myriad of challenges in the course of operating their businesses. This study concludes that strategic thinking has a positive significant effect on the performance of the small and medium-sized dairy processing firms in Kenya. If well adopted in the firms, then strategic thinking can have important implications for policy and practice that can be used to enhance the performance of small and medium-sized dairy processing firms in Kenya. For instance, strategic leaders of small and medium-sized dairy processing firms in Kenya should enhance the practice of strategic thinking through a systems perspective by describing the structure of the firm and collect the right information, and prioritizing the features of the structure that may influence its present and future operations. Also, strategic leaders should develop and communicate the strategic intent of their firms and allow staff to work towards the firm goals and resist distractions brought about by the industry's dynamics. Particularly, strategic leaders can use intelligent opportunism by noticing and exploiting opportunities in their environment to their advantage, such as incentives from the government to the small and medium-sized enterprises. Moreover, strategic leaders should connect the past to the present and future. This can be done through using the past lessons to make predictions of the future. Moreover, the firms should predict the future by linking the past to the present and the future, envisage scenarios that can help in hypothesizing outcomes and analyse these envisaged scenarios from accumulated knowledge. This should particularly be practiced by strategic leaders in small and medium-sized dairy processing firms because it was found be practiced to a little extent. The findings of the study also provide an empirical model based on adopted conceptual framework which is applicable to the small and medium-sized dairy processing firms. To achieve superior performance, the firms can apply the theoretical model on strategic thinking developed by Leidkta (1998).

The findings and conclusions of this study are, however, limited to the small and medium-sized dairy processing firms in Kenya, therefore future studies should be conducted in the large dairy processing firms in

Kenya to establish whether similar results will be obtained. Additionally, the study focused on five-year period between 2016 and 2018 therefore, longitudinal studies can be undertaken to establish the effect of strategic thinking in the long-term, on the performance of small and medium-sized dairy processing firms. Other variables such as environmental factors and national policies could be used as moderating and mediating variables to establish their effects on the relationship between strategic thinking and firm performance. Future research should focus on validating the findings and conclusion of this study by undertaking replicative researches in other organizations and sectors in Kenya.

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ESJ Social Sciences

Ragging: A Harmless Tradition or Menace? Perspective of Newly Admitted Medical Students of Karachi, Pakistan

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Abstract

Ragging is a disruptive behavior mostly observed among senior students of many institutes towards their junior sub-ordinates.

The following study evaluated the perception of newly admitted students about ragging in one of the public medical college of Karachi, Pakistan i.e., Karachi Medical and Dental College. Out of 140 newly admitted students of first year MBBS, 102 participants were enrolled in this study. The data was

collected in two steps, i.e., Questionnaire A was distributed among the students on the orientation day whereas, Questionnaire B was distributed one week after the orientation to the same students who had filled the Questionnaire A. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 20. Majority of participants were aware about ragging. Data of Questionnaire B revealed that about half of participants 52 (50.9%) got ragged on the orientation day, while most of the students faced mild to moderate intensity ragging. Males were found to be more frequent victim of ragging as compared to females.

The present study indicates that ragging may have a negative impact on the morale and self-confidence of many students; moreover, the study suggested that serious actions shall be taken against ragging. Formation of an anti-ragging committee can provide great aid to the newly admitted students on their first day, promoting an anti-ragging environment within the institute and ensuring prevalence of such environment in order to prevent negative impacts of ragging.

Keywords:Ragging, Anti-ragging, Medical students, Newcomers, Harmless tradition

Introduction:

The term 'ragging' can be defined as a disruptive behavior that involves treating any individual particularly student offensively(Desai, 2009; Nallapu, 2013) either physically or verbally to create a feeling of fright or to intimidate an individual. Hazing, fagging, bapteme (French); doop (Dutch); and mopokaste (Finnish) all are altered words for a similar, old and offensive custom of bullying new students as a rite of passage for them into their first year of professional college or university (Garg, 2009) and as an essential part of an "introduction development" as they call it; (Shareef et al., 2015), the popularity of ragging has its origin from a myth that ragging makes student bold and emotionally strong gives this practice passive social acceptance.

Ragging has been in existence since the Anno Domini (A.D.) era. Starting from the European Universities, this practice spread far and wide throughout the world where seniors would play practical jokes in order to welcome freshmen in their institutes. Later many military organizations throughout the world adopted such rituals of physical jokes (Shinde, 2017: 664-665). In the Indo-Pak subcontinent it was first introduced by the British Military School. At first it was rather in a lighter and milder tone to help students relax and become comfortable in the new environment. However, with a period of time it developed into a much torturous and grievous

practice which is still practiced in many military and civilian institutes of the Indo-Pak subcontinent (Kaiser, 2008).

It appears that two different schools of thought tend to exist among students related to ragging and its impact. The first school of thought believes ragging to be a harmless and a traditional way to introduce newly admitted students and glorify it as a personality developing practice, whereas, the second group considers ragging as a selfish and deplorable crime committed by senior students which trigger social and emotional problems in new-comers.

Therefore, certain students initiated the development of the anti-ragging team in Karachi Medical and Dental College, but it is still in its primitive form due to the arising conflicts between two groups having different perspectives. The main focus of this study is to find the perspective of newly admitted students, whether they perceived ragging as a healthy way of interaction or as a menacing behavior. This study also aimed to determine the impact of ragging on students and the impact of the anti-ragging team in the prevention of ragging. This study adds significant insights about ragging, its impact and perspective of newcomers. This study also suggests some strategies for authorities of medical institutions which can help them to put a full stop on this traditional practice of ragging. According to the author's knowledge, this is the first study conducted in Pakistan which determines the role of anti-ragging body in preventing ragging in any educational institute.

Methodology

A descriptive quantitative study was conducted from Dec'19 to March'20 in one of the known medical institutes of Karachi, that is Karachi Medical and Dental College (KMDC), Pakistan. Target population of study was newly admitted students of first-year MBBS, inclusive of both genders. The study was done with the help of two self-administered, self-structured questionnaires i.e. Questionnaire A (QA) and Questionnaire B (QB) prepared after a focused group discussion with some seniors and the members of the anti-ragging team. Pilot evaluation on a group of 16 students validated both questionnaires. The reliability coefficient, including Cronbach alpha, was found significant.

- **Questionnaires**

Questionnaire A (QA) consisted of questions related to general awareness of newly admitted students regarding general information of ragging. Student's perception on ragging was investigated using (0-5) scored Likert style scale consisting of five questions.

Questionnaire B (QB) is used to evaluate the number of students who got ragged on the orientation day (frequency), the intensity of ragging they faced, their ragging experience and the impact of ragging on them.

QB also evaluated the success of anti-ragging team in the prevention of ragging.

- **Data Collection**

Sample size was found to be 135 using Openepi at 95% confidence interval. A two-stepped sampling technique was designed. In the first stage, **Questionnaire A(QA)** was rotated among 140 newly admitted students through random sampling method on their orientation day, students were asked to mention their merit number in order to track them later for QB however their names were kept confidential, whereas in the second stage, **Questionnaire B(QB)** was rotated to same participants on their first day of academic year which was around a week after the orientation to compute the feed-back of newly enrolled students after their ragging. Students participated in the study voluntarily. To encourage honest answers students were assured anonymity.

- **Data Analysis**

The data was collected and analyzed by using Statistical Package for Social Sciences (SPSS-20). The frequency and percentage were calculated for the quantitative variables. The association of ragging with gender was calculated by using the Fisher exact test, cut-off p-value of < 0.05 was considered as significant.

Results

Tracking the same participants for QB after a week was quite challenging as some of the participants opted for another medical university while some switched their field from MBBS to BDS. Out of 140, 125 QA were obtained on Orientation day however the data of 102 participants with duly filled questionnaires A and B included for final analysis making a response rate of (72.85%).

Pre-ragging

Data of QA revealed that the majority of participants were already aware of ragging through social media 65(63.7%) and friend/senior 19(18.6%). About half of total participants 57(55.8%) were expecting mild, 26(25.4%) moderate intensity of ragging while very only few 4(3.9%) were expecting intense ragging ($p=0.15$). Both Males 38(37.3%) and Females 64(62.7%) participated in the study.

The perspective of participants is tabulated below in **Table 1** which indicates that the majority responded negatively, disagree 27(26.47%) and strongly disagree 16(15.3%) on the statement that **ragging is a good source of senior-junior interaction**.

About 9(8.8%) agreed and 49(48.03%) strongly agreed on ragging within limitation is fun. Whereas, 33(32.35%) disagreed and 13(12.74%) strongly disagree on "**ragging help in building self-confidence**", 26(25.5%) and 16(15.3%) Disagreed and strongly disagreed on statement '**Ragging doesn't have any impact on mental health**' respectively. 35(34.3%) disagree on statement "**ragging being a healthy college tradition**" while 26(25.5%) agreed.

TABLE 1: PRESPECTIVE OF NEWLY ADMITTED STUDENTS REGARDING RAGGING					
In Frequency (n) and Percentage (%)					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<i>Ragging is a good source of senior junior interaction</i>	5 (4.90%)	28 (27.45%)	26 (25.5%)	27 (26.47%)	16 (15.32%)
<i>Ragging within limitation is all fun</i>	9 (8.8%)	49 (48.03%)	17 (16.66%)	20 (19.6%)	7 (6.8%)
<i>Ragging helps in building self confidence</i>	6 (5.8%)	24 (23.52%)	26 (25.5%)	33 (32.35%)	13 (12.74%)
<i>Ragging has no impact on mental health</i>	14 (13.7%)	18 (17.62%)	16 (15.32%)	26 (25.5%)	16 (15.32%)
<i>Ragging is a healthy college tradition</i>	4 (3.92%)	26 (25.5%)	24 (23.52%)	35 (34.3%)	13 (12.74%)

Post-ragging

Data from QB revealed about half 52(50.9%) of participants i.e. 27 (71%) males and 25 (39%) females got ragged significant difference of ($p=0.02$) revealed a significant association between ragging and gender

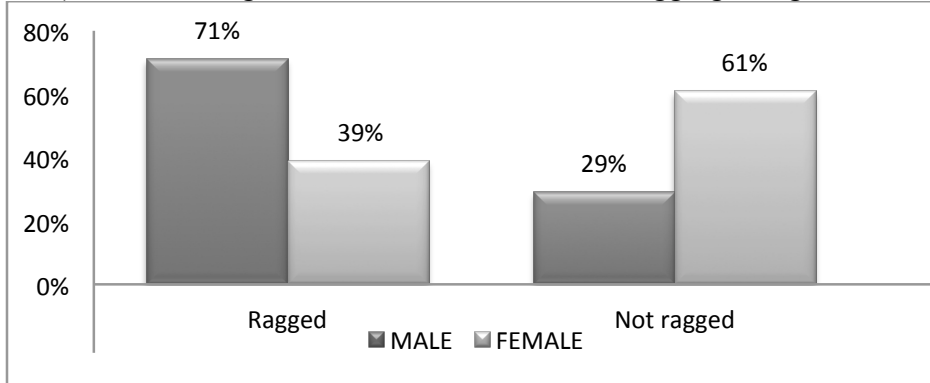


Fig 1: Frequency of ragging among newly admitted students in percentage (%)

Among 52 participant majority of them faced mild 35(67.3%) to moderate 16(30.8%) intensity of ragging. Experience and impact of ragging on those who got ragged is shown **Figure 2 and Figure 3** as the most common experience of participants who got ragged was fun 22(42.3%) (M: 48.10%; F: 36%) while according to $\frac{1}{3}$ the experience was humiliating (M: 22.20%; F: 44%) p-value was found to be 0.03 i.e. ($p > 0.05$)

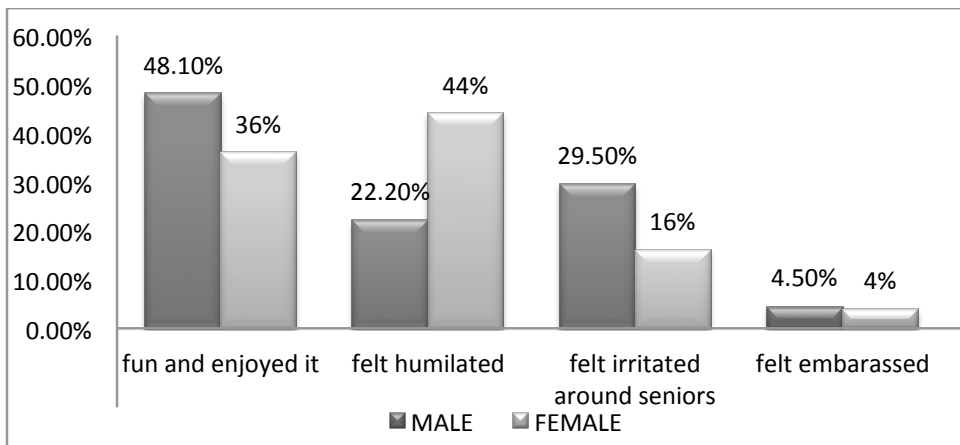


Fig 2: The overall ragging experience in percentage (%)

Regarding the impact of ragging a significant difference between two gender is found ($p=.002$). A great majority of participants i.e. 52 percent females

and 26 percent males were of the view that there was no impact of ragging on their mental health while the most common response among male participants was shattered self-confidence (M: 37%; F: 12%)

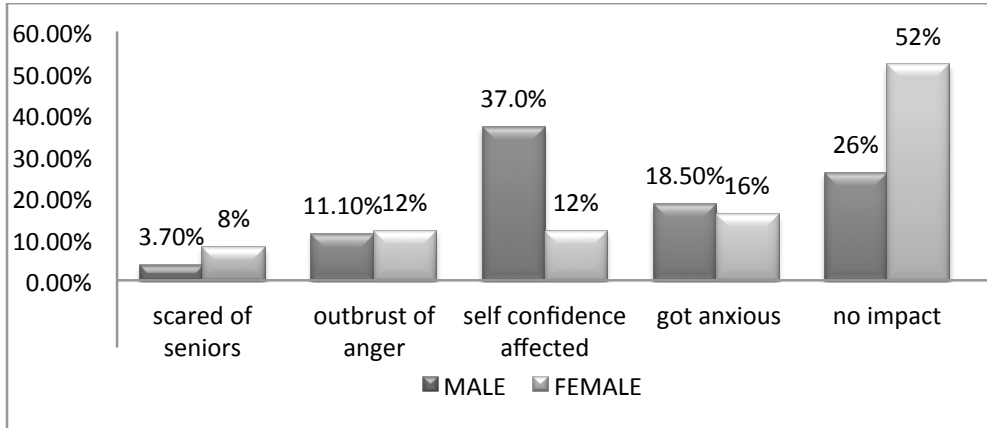


Fig 3: The impact of ragging in percentage (%)

Out of 102 majority of participants accepted that anti-ragging team was mild 53(52.4%) to moderate 21(20.6%) successful in preventing ragging while according to 24(23.5%) it was not.

Discussion:

Ragging is considered to be an icebreaker between juniors and seniors on the first day of admission where a certain amount of teasing by seniors is done with the intension to have some fun at the expense of the new students, however, the negative impacts causing emotional, physical, and social problems among victims often seem to be neglected. An exponential increase is observed in many parts of the world specially in the Indo-Pak subcontinent i.e., India, Pakistan, Sri Lanka and Bangladesh. Moreover, this act of ragging is not only limited to educational institutes, hostels and military academies but has now penetrated many other aspects and fields of the society (Wajahat, 2014). Ragging seems to be a rising problem in many universities of Pakistan with many reported cases and is the most fundamental cause of frustration and depression among newly admitted(Gulzar et al., 2012; Wajahat, 2014). Every student is scrutinized on the level of their emotional tolerance and it may sometimes result in mental and physical abuse of the children. A large population in the educational sector suffers from the trauma of ragging which creates a discrepancy in their social and emotional conduct.

Getting admission in one of the government professional medical institutes of Karachi is indeed a hectic process and requires a great amount of hard work. Students after being through all of this, enter the premises of college with high aspiration, however, ragging turns their memorable day into a nightmare, few minutes of fun for seniors can water the roots of negative emotions including perpetuating fear, low self-esteem, irritability, anger and in severe case one may develop long-term consequences such as depression and institutional phobia (Castaldelli-Maia, 2012; Wajahat, 2014). Also the negative sentiments such as frustration, mortification and brutality of ragging leaves a irremovable dent on student's mental health (Rao, 2015), ragging adds onto the already overflowing list of negatives emotions among freshmen medical students (Shareef et al., 2015), thus the concept of tradition or harmless fun need to be discouraged which can damage the personality of highly ambitious students.

The majority of new-comers participated in this study were females, the female majority can easily be justified by the fact that study was done in a professional medical college of Pakistan (Moazam & Shekhani, 2018). More than two-thirds of participants already had an idea about ragging which was possible due to an access to social networks, television, and some other means of broadcast which was documented by Miranda Sabu, 2018 as well.

Ragging within some limitations is all fun; this statement was supported by almost three-fourths of the participants. The results of Nallapu, 2013 supported the results of this study that ragging is acceptable and fun as concluded by around three-fourth of the participants, Nallapu, 2013 in his study asked the same question from senior batches and almost all of them agreed that ragging should not cross certain limits and serious punishments should be given to the students who participate in damaging forms of ragging.

Many previous studies which regarded ragging as a personality enhancing practice or a practice that boosts self-confidence (Gamage, 2017; Nallapu, 2013). Gamage found ragging to be effective on students with the rural or low socioeconomic background as they have a deprived personality on such students mild ragging force them to communicate with people thus enhance their communication skill (2017), however the majority of students admitted in KMDC belong to the urban background and thus the confidence-boosting effects of ragging is not supported by the participants of this study.

Ragging is considered as a masculinity test for boys and males underperforming or being whiny about it are considered to be weak and become a frequent victim of mockery and harassment (Rao et al., 2018); Moreover boys become an easy victim of ragging in medical college where they are easily identified as a newcomer because of their minority whereas the ragging of female students is usually taken seriously among institutes and

more severe punishments are given to the offender (Marin et al., 2008; Rao et al., 2018)

Males have a strong physical endurance as compared to females, moreover males have more peer pressure of being accepted as strong and “cool” among their companions thus even those who don’t like it pretend that they have enjoyed it (Rao, 2015). Females are considered to be more emotional, sensitive, and outspoken as compared to males (Kring&Gordan, 1998) hence their description of ragging activity wasn’t fun and enjoyment keeping out a fraction of female participants.

Each student has their range of ragging strength, some are more mentally sensitive than others, however, for them only a slight action intended for amusement and laugh can initiate a series of psychological effects resulting in severe hindrance and extreme misery (Nallapu, 2013). Shattering of self-confidence makes students feel incapable, dependent and worthless which in extreme case may result in suicidal ideation (Manani, 2014). Ragging has multiple aspects such as psychological, behavioral, and political ones, so a more integrated study needs to be done to understand the phenomenon.

Strategies to Prevent Ragging Among Medical Institutes:

To maintain healthy institutional environment, it is a primary responsibility of authority to punish the offenders. Institutional authorities play a major role in prevention of ragging. The following methods and techniques are suggested which can help authorities in prevention of ragging among medical institutes.

1. **Zero-Tolerance for Ragging:** Before the commencement of new academic session or before the orientation ceremony, the dean or principal of medical institution should give a clear warning about zero tolerance for ragging and punishment for offenders stating that ragging in no manner will be acceptable.
2. **Formation of Anti-Ragging committee:** The menace of ragging can be curbed by forming Anti-Ragging committee in medical institutes consisting senior students, faculty member and staff. These anti-ragging bodies can play a major role in effective discouragement of ragging among an institute (Kaiser, 2008)
3. **Supervision of Medical hostels:** Medical Hostels are one of the common places for ragging and usually ragging in hostels remains unreported or unnoticed. Thus, to prevent ragging in hostel a strict supervision of Hostels is needed. It can be done through installed

CCTV cameras at strategic points. Moreover, supervising members should keep an eagle eye on the activities of hostel students.

4. **Alternative for Senior-Junior interaction:** The principal purpose of ragging is to provide a mechanism of interaction and socialization (Shakya&Maskey, 2012). However, an alternate is required of ragging in order to promote a healthier manner of socialization which is free of cruel ragging customs and much more effective which can be done by the help of psychological sciences. Many alternatives can be used such as pre-session parties for the fresher, social gathering of juniors and seniors in the presence of authorities, interactive games, community work, trips etc. in which seniors and juniors are bound to work and participate together. Socialization in a friendly way in the form of interactive games and activities can nullify the harmful impact which was produced by ragging.
5. **Awareness through media:** Social media and television media shall talk about the grievous impacts of ragging and about the information regarding Anti-Ragging committees and material. Moreover, the students need to be educated about the negative impacts of ragging by pamphlets and interactive sessions. This material can also be emphasized in the prospectus of institution, admission advertisements and admission forms. Severe penalty towards Ragging or Ragging-Free placards or notices depicting the consequences of such an act needs to be displayed at strategic points of the premises.
6. **Workshop or Sessions for awareness of Ragging hazards:** Creating awareness amongst students, management and faculty of institute about the ill-effects of ragging can play a crucial role in mitigating the bane of ragging in the colleges (Gorea et al., 2012).
7. **Seniors Counseling:** Proper counseling of senior students through sessions and spreading awareness among them about the after-effects of ragging should be done.

Limitation and Future Direction:

This study consisted new-admitted students of M.B.B.S. This survey did not include items regarding perception of seniors or anti-ragging team. Future research can explore the perception of seniors or anti ragging team regarding ragging and its impact. Study was done in a single medical college of Karachi; Pakistan thus different results can be expected from other medical colleges. It could be interesting to follow up the study in different contexts. This study doesn't use any measuring scale to examine the negative

emotions among newcomer such as stress, anxiety and depression. In future more integrated study is needed on multiple aspects of ragging such as psychological, behavioral, and political ones. Moreover, the future researches are expected to add insights about the role of anti-ragging team and prevention measures in controlling ragging among medical institutes.

Conclusion:

The following article present a detailed account of discussion on the perspective of newly admitted students of Karachi Medical and Dental College on ragging followed by its impact on students who faced ragging. Another aimed topic discussed in this article is the impact of the anti-ragging team in prevention of ragging and ensuring the safety of students and their self-confidence. Ragging is contemplated as an act of humiliation and misconduct towards newly admitted students. Titled under different names and forms, it has harmed a large population of students mentally and physically. With its roots still planted in institutes all over the world and its stems being watered well by generation after generation it has never failed to harm its target. While it still exists in most of the institutes, some are stepping up against the bully and putting an end to ragging by forming an anti-ragging committee.

To end the taboo of ragging, institutes have to be responsible to put a stop on it by forming anti-ragging counsel, to resolve matters of ragging and by creating anti-ragging teams to patrol the premises of institute during the commencing days of newly admitted students in order to avoid any mishaps. A system should be established to govern the atypical behaviors of those who contribute to severe ragging. Activities other than ragging to conclude supremacy among students should be introduced.

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Sandwich Model of Educational Upgrading in Ghana: A Transitional Challenge in Disguise

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Abstract

The study investigated transitional challenges among undergraduate (bachelor of education) sandwich students. Adopting the descriptive survey design, a census population of 651 was used. Sanagavarapu, Abraham and Taylor's (2018) TWHAS was used for data collection. The data was

analysed using frequency counts and MANOVA. The study revealed that 59.6% of the students experienced difficulty in balancing family commitments with studies, 77.4% found it difficult to exercise, 61.0% found it difficult meeting up with friends and 73.3% found it difficult balancing financial commitments. Again, 45.2% of the students rarely experienced misunderstanding, while 25.0% were concerned about what others would say about them, 29.2% were concerned about the language barrier, 75.7% were concerned about their inability to explain their problems but 81.9% were not afraid seeking support from colleagues. More so, females experienced transitional challenges more than males. It is recommended for managers of the programmes to counsel students so as to control the effects of the challenges.

Keywords: Transition, Challenge, Undergraduate, Sandwich Students, Academic Programmes

Introduction

Educational upgrading (higher education) has become common among many professionals including teachers. Teachers, as they embark on their higher education journey, have to defy all odds and transit from their 'comfort zones' to institutions where tuition can be received. According to Allard and Perry (2003), transition in education refers to an internal course in the mind, which occurs while students experience a change from a routine to the inexperienced; responding to the cultural, social and individual's difficulties in the behaviour. This act of teachers moving from one place (homes or comfort zones) to another (new school environment) has nothing ordinary to offer them but transitional issues in their quest for knowledge acquisition. On the basis of this, Parker et al. (2017) note that several academic and non-academic difficulties exist for students, of which they must overcome when moving from one place to another to further their education. Despite the interesting moments attached to the new entrant in the new educational journey, it is important to note that the period could be challenging for students in terms of general adaptation (Parker et al., 2017). According to Wangeri, Kimani and Mutweleli (2012), university entry globally offers students with opportunities in diverse ways to define and advance their professional prospects. Due to different socioeconomic backgrounds of students, the university's physical and social settings may look new, devastating and threatening to some students. Consequently, many students starting universities possess mysterious fears and expectations about life and education in the university. While some students rejoice over gaining admission to the university, the admission also brings about extreme apprehensions since some students are distant breaking from regular places

and people in their lives for the first time. Bling (as cited in Wangeri, Kimani & Mutweleli, 2012) opined that transition in any educational level is recognized as a shaker of social security, physical comfort and ability to enjoy satisfying activities for new entrants. Bernier, Larose, and Whipple (2005) affirmed this assertion that educational transition can be a worrying social and mental event. This is because autonomy away from parents and known people are to be tested as first year students are required to make decisions concerning day-to-day activities personally. Corroboratively, Talbert (as cited in Wangeri, Kimani & Mutweleli, 2012) notes that each first-year student is required to make decisions about when and what to do as well as when to sleep and wake up. Before the new life in the university, important figures such as parents, friends, neighbours and teachers guide potential university students about the 'pros' and 'cons' of university life. Such guidance extends to the kind of friends a potential university student keeps. In this regard, students are prompted of where to be at what time using a customary reminder of what to do and where to be.

Noting this, Jeyagowri and Ilankumaran (2018) assert that an effective transition takes a longer time for students to cope with. Hence, a progressive and fruitful transition in education is fundamental if students are to remain in the course in higher education and experience prosperous consequences (**Parker et al., 2017**). Tinto (2013) in a study emphasized that the influences students receive preceding their university courses define how prepared they become for social and academic integration into tertiary education. According to Tinto, such influences compel students to set expectations concerning what the university has for them and likelihood response on the part of the students. Hughes (2016) submits that several students are faced with unclear or impractical expectations of university. In studies such as Kahneman (2012) and Tinto (2013), many new university students endorsed the assertion that students have trouble in envisaging the future with impracticable beliefs. In this case, assisting students in terms of setting reasonable expectations and beliefs about the university would help in their transitional experiences. Harvey, Drew and Smith (2006) in a study asserted that the most important component of expectations students held is not about accuracy but how flexible and appropriate such expectations could be. Therefore, assisting students to broaden their expectations and recognize differences in expectations could be more productive than attempting to challenge and change the current beliefs of students (Harvey et al., 2006).

Noting the setbacks in transiting from one community to another, students arrive at university without the required personal, social and academic skills for a successful integration into the university (Norton, Keenan, Williams, Elander, & McDonough, 2009). Oliver and Kettley (2010) indicated that problems of time management, flexibility, managing

relationships and budgeting persistently become eminent among transiting students. These problems, according to Oliver and Kettley (2010), are not solely caused by the transitional process but because most universities are examination-focused than knowledge acquisition, hence students experience problems as they join the university. According to Zajonc (2001), this is challenging, not because beginning students are expected to be responsible for their own learning but because superficial learning is likely to cause higher levels of anxiety and reduce students' academic attainment greatly in the university. Ameliorating these challenges is possible through acquisition of pre-university skills among students transiting and a change in their learning approach could be beneficial in this regard (Walker, 2010).

Taking demographic characteristics into perspective, Sangeeta and Chirag (2012) in a study revealed that transiting university students with poor socio-economic background and poor academic achievement experience more transitional problems than their counterparts with high socio-economic backgrounds. Gender wise, Surekha (2008) in a study found that female transiting students experience more transitional problems than their male colleagues. In a related study with the aim of establishing differences in transitional problems among transiting university students, it was revealed that the mean score for the males and that of females was the same (Mean=40.0), hence, the conclusion that no differences existed between them as they transit to the university as first years. Therefore, gender could not contribute to any challenge transiting students experienced in the university in the study (Muntazir & Kermane, 2015). Research works by Enochs and Ronald (2006) and Abdallah, Elias, Muhyiddin, and Uli (2009) revealed significant differences in gender of transiting university students in terms of the challenges they face in the transitional process, where male students experienced less transitional challenges than female students. A similar study was conducted by Edjah, Domey, and Ankomah (2019) concerning transitional challenges students experience, using first year university students in Ghana. Comparing male and female students using the independent samples t-test, the results indicated that male students' mean score ($M = 41.8$, $SD = 7.1$) was more than female students' mean score ($M = 46.1$, $SD = 10.4$), with $t(398) = -4.74$, $p < .001$ and eta squared of .053 implying a moderate difference effect. It was concluded that female students differed considerably from their male counterpart as they experienced more transitional challenges than males.

As it holds, the present study situates itself on undergraduate (bachelor of education) sandwich students who are pursuing their degree programmes under a University of Cape Coast, Ghana (public university). In Ghana, Ghana Education Service has pegged bachelor of education degree as the minimum requirement for the teaching profession at the basic level. So, it

has become requirement for those in the teaching occupation to possess a minimum bachelors degree in education, hence diploma certificate students quest to upgrade themselves to meet the standard. As professional teachers, they are required to teach for some stipulated years (3-5 for urban teachers and 1-3 for rural teachers) before they could be given study leave with pay to upgrade themselves academically. Most often than not, these professional teachers are able to serve the required years and are due for study leave with pay, however, the perceived corrupt bureaucratic educational system in Ghana prevents genuine teachers who qualify to enjoy such opportunities. The situation gives room for these educational opportunities to be left in the hands of perceived few influential and privileged people in higher offices, who give the opportunities out to their favourites or allies or cronies.

Due to this, many of these teachers are compelled to enrol in seasonal educational programmes (sandwich) organized by the public universities, including a particular Public University, at every vacation so that those who could not get the opportunity to pursue their desired programmes through regular model could take advantage because schools would be on vacation and teachers might be free then. This practice has its own dynamics as those who get enrolled usually come from diverse towns and communities to converge at any of the designated satellite campuses to receive tuition and assessment. Coming from diverse backgrounds and cultures for a common purpose might pose a challenge to many of these students but it is undocumented to guide policy formulation, hence, the current study. In reviewing literature, many studies such as **Muntazir and Kermene (2015)**, Enochs and Ronald (2006), Abdallah, Elias, Muhyddin, and Uli (2009) and Edjah, Domey, and Ankomah (2019) are conducted among students using the regular model or stream but little or no studies are found using undergraduate sandwich students, hence a gap in literature. Therefore, the researchers thought it imperative to dwell in this tangent using a certain College of Education Satellite Campus under a Public University as a focal point.

Research Question

1. What transitional challenges do undergraduate sandwich students encounter in school?

Research Hypotheses

1. **H₁**: There is gender difference in transitional challenges experienced by undergraduate sandwich students.
2. **H₁**: There is programme difference in transitional challenges experienced by undergraduate sandwich students.

Methodology

The study employed descriptive survey design with the quantitative approach. The design was appropriate for this study because it enabled the researchers examined situations descriptively and made no effort to determine cause and effect among the study respondents as may be the case in other quantitative designs. Using the descriptive survey design, situations and circumstances emanating from the study were described as they were and no manipulation of variables were considered. With the quantitative aspect, analysis and reporting was made in figures and numbers as a benchmark. Siding with Ethridge (2004), Ethridge (2004), Fox and Bayat (2007) and Fox and Bayat (2007) in the use of descriptive survey design, it clarified accounts of matters as they exist without the researcher having power over the variables under investigation. The objective of this design was about bring clarity to current issues and problems in sandwich education through a process of data collection that enabled the researchers to describe the situation possible and adequately. Advantageously, descriptive survey design research can provide an in-depth view of any phenomenon researchers might wish to investigate and the details provided in this phenomenon are exceedingly valuable. However, the choice of descriptive survey design offers researchers less opportunity to determine any cause-and-effect relationship from their investigation (Sumeracki, 2018).

The population for the study was all undergraduate sandwich students in a certain College of Education satellite Campus with a population of 690 students. The population comprised students who were pursuing Bachelor of Education Home Economics Programme and Bachelor of Education Arts. The male and female student numbers were not equal in terms of gender and programmes of study.

The sample size for the study was 690 undergraduate sandwich students in a College of Education Satellite Campus as a reflection of the population. The sample size of 690 was used through census, where every student in the study area was deemed qualified to be part of the study. In this study, no stringent sampling criteria was established for the students but one could only take part if he or she had enrolled for undergraduate Home Economics or Arts Programme in the College of Education Satellite Campus.

The study used an adapted questionnaire that was developed by **Sanagavarapu, Abraham and Taylor** (2018). In the adaptation, few modifications were made on some dimensions and items so that they could be contextually and culturally appropriate for usage. This instrument was named Transition, Wellbeing, Help-seeking, and Adjustments Scale (TWHAS) for the data collection. The original scale had 38-items distributed among four (4) dimensions: personal, socio-emotional, and academic challenges associated with transition to university (14-items; $\alpha=.74$); moods

and coping relating to students' wellbeing (12-items; $\alpha=.87$); socio-demographic and psychological barriers to seeking help (11-items; $\alpha=.87$), and overall transitional adjustments to university (1-item). The adapted version had 34-items distributed among three (3) dimensions: personal, socio-emotional, and academic challenges associated with transition to university (12-items; $\alpha= .73$) with scoring such as very easy=1, easy=2, difficult=3 and very difficult=4; moods and coping relating to students' wellbeing (12-items; $\alpha= .77$) with scoring never=1, rarely=2, often=3 and all the time=4; and socio-demographic and psychological barriers to seeking help (10-items; $\alpha= .80$) with scoring strongly disagree=1, disagree=2, agree=3 and strongly agree=4. The original four (4) dimension was ignored as such transitional adjustments were reflective in the three (3) chosen dimensions.

The data gathered with the adapted scale was analysed quantitatively using descriptive and inferential statistical tools. The specific descriptive statistical tool used for analysing the research question was frequencies and percentages. This was used because the researchers wanted to know the extent to which students are challenged as they transit from their various stations to a common converging point for academic work. The specific inferential statistical tool used for testing the hypotheses was Multivariate Analysis of Variance (MANOVA). This was used because the researchers sought to find out if differences existed among male and female students and their programmes of study, using a multi-dimensional continuous variable.

Results and Discussion

This analysis espoused demographic and main data that are presented descriptively and hypothetically. The analysis and interpretations of the data were carried out based on the results of the formulated questions and hypothesis. The analysis was based on the 94% return rate of data obtained from 651 out of 690 respondents sampled for the study.

Demographic Characteristics of the Respondents

The demographic information was about respondents' gender and programme of study. Frequencies and percentages were used to present the findings as depicted in Table 1:

Table 1: Demographic Characteristics of the Respondents

Variable	Frequency	Percent
Gender Male	218	33.5
Female	433	66.5
Total	651	100.0
Programme Home Economics Education	145	22.3
Arts Education	506	77.7
Total	651	100.0

Source: Field Data (2020)

Table 1 presents result about the demographic characteristics of the respondents. Table 1 had two demographic characteristics such as gender and course of study. On the gender, female respondents dominated the sample with 66.5% (433) while male respondents were 33.5% (218). On the issue of course of study, Arts Education students dominated the sample with 77.7% (506) and Home Economic Education students had 22.3% (145).

Main Results

This aspect of the study is about transitional challenges among students. The challenges were in three (3) dimensions namely: personal, socio-emotional, and academic challenges; moods and coping, and socio-demographic and psychological barriers. Table 2 presents the results:

Subscale 1: Personal, Socio-Emotional, and Academic Challenges				
Since starting at University of Cape Coast, how easy or difficult was it for you to Scoring	Easy		Difficult	
	Freq.	%	Freq.	%
Balance family commitments with studies.	270	41.4	381	59.6
Balance financial commitments with studies.	174	26.7	477	73.3
Find time to exercise.	142	22.6	509	77.4
Travel to the university.	239	36.7	412	63.3
Make friends with people from similar backgrounds on campus.	507	77.9	144	22.1
Make friends with people from different backgrounds on campus	474	72.8	177	27.2
Meet up with friends outside the university.	254	39.0	397	61.0
Participate in studies and discussions.	507	77.9	144	22.1
Feel respected by peers and other staff.	572	87.9	79	12.1
Understand my course requirements.	420	64.5	231	33.5
Complete my assessments.	361	55.5	290	44.5
Subscale 2: Moods and Coping				
Since starting at University of Cape Coast, how often do you feel	Never	Rarely	Often	All times

	Freq./%	Freq./%	Freq./%	Freq./%
Scoring				
Misunderstood by others.	224/34.4	294/45.2	105/16.1	28/4.3
Unable to concentrate on anything.	220/33.8	293/45.0	129/19.8	9/1.4
Nervous when talking to people.	355/54.5	206/31.6	76/11.7	14/2.2
Everything is too difficult.	174/26.7	239/36.7	170/26.1	68/10.4
Pressurised to succeed from family.	227/34.9	233/35.8	130/20.0	61/9.4
Worried (e.g. about money, study, family).	164/25.2	175/26.9	202/31.0	110/16.9
Unable to fit into university	453/69.6	134/20.6	39/6.0	25/3.8
Not wanting to go to a tutorial or lecture	456/70.0	136/20.9	40/6.1	19/2.9
Lonely	357/54.8	195/30.0	68/10.4	31/4.8
Tired for no good reason	342/52.5	177/27.2	98/15.1	34/5.2
Irritable/tempered	412/63.3	163/25.0	58/8.9	18/2.8
Low self-respect/importance	511/78.5	81/12.4	46/7.1	13/2.0

Subscale 3: Socio-Demographic and Psychological Barriers

If you did not seek help, tick the below that applies to you	Disagreed		Agreed	
	Freq.	%	Freq.	%
Scoring				
I would be concerned about what others would say.	488	75.0	163	25.0
I would feel ashamed of myself in school.	555	85.3	96	14.7
I would be concerned that others would find out	503	77.3	148	12.7
I would not trust the support staff in my school	556	85.4	95	14.6
I would be afraid to seek support from my colleagues	533	81.9	118	18.1
I would be concerned I may not be able to explain my problems	493	75.7	158	14.3
I would be concerned about language barriers.	461	70.8	190	29.2
I would be concerned that colleagues may not respect my faith in school.	514	79.0	137	21.0
I would be concerned that colleagues may not understand my cultural background in school.	495	76.0	156	24.0
I would be concerned that my family member, or friend, cannot accompany me to school.	526	80.8	125	19.2

Table 2: Transitional Challenges Experienced by Respondents Field Data (2020)

It can be deduced from the findings that virtually all statements in Table 2 were confirmed as being challenges concerning students transiting from their homes to their academic environment. In terms of **personal, socio-emotional, and academic challenges**, 59.6% of the respondents indicated that they found it difficult in balancing family commitments with studies while 77.4% indicated that they found it difficult to find time to exercise. It was revealed that 61.0% of the respondents indicated they found it difficult to meet up with friends outside the university while 73.3% of the respondents indicated that they found it difficult to balance financial commitments with studies. However, 55.5% of the respondents indicated that they found it easy to complete their assessments while 77.9% of the respondents indicated that they found it easy to participate in studies and discussions. More so, 77.9% of the respondents indicated that they found it easy to make friends with people from similar backgrounds on campus while 77.2% of the respondents indicated that they found it easy to make friends with people from different backgrounds on campus and have problems attending regular lectures. It can be observed from the results that students were challenged in some aspects but not in others. The findings of the current study corroborate with that of Oliver and Kettley (2010). In their study, it was revealed that time management, flexibility, managing relationships and budgeting were among the transitional challenges they encounter and these are in line with the specific transitional challenge dimension. These findings were corroborated by Oliver and Kettley (2010) that such challenges are not just felt by students because of the new settings they find themselves but because 21st century universities pride high grades than acquiring knowledge, hence a burden on new entrants.

In terms of **moods and coping challenges**, 45.2% rarely experienced misunderstanding with others, 16.1% respondents often experienced misunderstanding with others and 4.3% of the respondents always experienced misunderstanding with others. Again, 45.0% of the respondents rarely experienced lack of concentration, 19.8% of the respondents often experienced lack of concentration and 1.4% of the respondents always experienced lack of concentration. Furthermore, 36.7% of the respondents rarely had trouble in everything, 26.1% of the respondents' often-experienced difficulty in everything and 10.4% of the respondents always had trouble in everything. In addition, 26.9% of the respondents rarely experienced worry about their family, money and studies, 31.0% of the respondents often experienced worry about their family, money and studies while 16.9% of the respondents always experienced worry about their family, money and studies. It is evident that indeed, students experienced

some form of mood and coping challenges as they moved away from their comfort zones in terms of their homes to the new campus. The revelation of the current study debunks the assertion made by Wangeri, Kimani and Mutweleli (2012) that beginning university globally presents students with opportunities in diverse ways to define and advance their professional prospects but confirmed in part that many new university students hold mysterious fears and expectations about life and education in their academic journey (Wangeri, Kimani & Mutweleli, 2012). Again, the findings support Hughes (2016), Kahneman (2012) and Tinto's (2013) submissions that several students are faced with unclear or impractical expectations of university as beginners.

In terms of **socio-demographic and psychological barriers**, 25.0% of the respondents agreed that they were always concerned about what others would say about them while 29.2% of the respondents agreed that they were concerned about language barrier in the new tertiary environment. Again, 24.0% of the respondents agreed that many of their colleagues might not understand their cultural backgrounds in school while 21.0% of the respondents agreed that they would be concerned about colleagues not respecting their faith in school. However, 85.3% of the respondents disagreed that they might feel ashamed of themselves in school while 85.4 % of the respondents disagreed that they would not trust the support of staff in their school as they pursue higher education. In addition, 81.9% of the respondents disagreed that they would be afraid to seek support from their colleagues while 75.7% of the respondents agreed that they would be concerned about not being able to explain their problems to others in school. Per the findings, only few students might be challenged socio-demographically and psychologically. This could be as a result that these students have ever been to tertiary school during their diploma training, hence their ability to withstand such situations because they might be experienced similarly. The revelation of the current study disconfirms the assertion made by Norton, Keenan, Williams, Elander and McDonough (2009) that many students start university without the required personal, social and academic skills for a successful integration into the University because these category of students have ever attended tertiary institutions to acquire their diploma certificates that mandate them to teach in Ghanaian basic schools, hence, their flexibility in the areas of **socio-demographic and psychological barriers in the transitional process**.

Research Hypothesis One

One of the objectives of the study was to determine the differences in gender with respect to the transitional challenges (personal, socio-emotional, and academic; moods and coping; socio-demographic and psychological

barriers) faced by undergraduate sandwich students in a certain College of Education. The challenges were in three categories and as such MANOVA was appropriate for the analysis and the dependent variable had more than one level against gender (male and female). Table 3 presents the results on the descriptive statistics:

Table 3: Descriptive Statistics

Demographic		M	SD	N
Personal, Socio-emotional and Academic Challenges	Male	26.47	4.43	218
	Female	27.12	5.25	433
	Total	26.90	5.00	651
Moods and Coping Challenges	Male	21.84	5.39	218
	Female	20.75	5.30	433
	Total	21.12	5.35	651
Socio-demographic and Psychological barriers	Male	18.92	5.57	218
	Female	18.34	5.46	433
	Total	18.53	5.50	651

Source: Field Data (2020)

Table 3 showed that descriptive results of the study variables that indicated that there were differences in the mean scores of the gender of respondents based on their transitional challenges. For instance, male students had less personal, socio-emotional and academic challenges (M=26.47, SD=4.43), than female students (M=27.12, SD=5.25). In terms of mood and coping challenges, female students experienced them (M=20.75, SD=5.30) more than male students (M=21.84, SD=5.39). Again, female students experienced socio-demographic, and psychological barriers are (M=18.34, SD=5.46) less than male students (M=18.92, SD=5.57). There were differences observed descriptively, but then, these might not be statistically significant so there was the need for further examination using the Multivariate Test from the MANOVA analysis. Table 4 presents the results:

Table 4: Multivariate Test

Effect		Value	F	Hypot hesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.970	6950.117 ^b	3.000	647.000	.000	.970
	Wilks' Lambda	.030	6950.117 ^b	3.000	647.000	.000	.970
	Hotelling's Trace	32.226	6950.117 ^b	3.000	647.000	.000	.970
	Roy's Largest Root	32.226	6950.117 ^b	3.000	647.000	.000	.970
Gender	Pillai's Trace	.021	4.573 ^b	3.000	647.000	.004	.021

Wilks' Lambda	.979	4.573 ^b	3.000	647.000	.004	.021
Hotelling's Trace	.021	4.573 ^b	3.000	647.000	.004	.021
Roy's Largest Root	.021	4.573 ^b	3.000	647.000	.004	.021

Source: Field Data

Table 4 presents the results of the multivariate tests (MAVOVA) which checked for statistical differences between male and female students in terms of their transitional challenges. In examining the Table 4, the Wilks' Lambda results showed statistically significant differences in gender of the students with respect to transitional challenges (personal, socio-emotional, and academic; moods and coping; socio-demographic and psychological barriers) $F(3, 647)=4.57, p=.004$ Wilks' Lambda=.98, partial eta squared = .021. Based on the statistically significant difference detected, there was the need to find out which dependent variable contributed to that difference using the Tests of Between-Subjects Effects. Table 4 presents the results:

Table 5: Test of Between-Subjects Effect

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Personal, Socio-emotional and Academic Challenges	62.554	1	62.554	2.51	.114	.004
	Moods and Coping Challenges	171.916	1	171.916	6.05	.014	.009
	Socio-demographic and Psychological barriers	48.819	1	48.819	1.62	.204	.002
Intercept	Personal, Socio-emotional and Academic Challenges	416459.789	1	416459.79	16711.39	.000	.963
	Moods and Coping Challenges	263014.221	1	263014.22	9256.62	.000	.934
	Socio-demographic and Psychological barriers	201244.272	1	201244.27	6660.49	.000	.911
Gender	Personal, Socio-emotional and Academic Challenges	62.554	1	62.554	2.51	.114	.004
	Moods and Coping Challenges	171.916	1	171.916	6.05	.014	.009
	Socio-demographic and Psychological barriers	48.819	1	48.819	1.62	.204	.002

Error	Personal, emotional Academic Challenges	Socio-and	16173.541	649	24.921
	Moods and Challenges	Coping	18440.443	649	28.414
	Socio-demographic and Psychological barriers		19609.285	649	30.215
Total	Personal, emotional Academic Challenges	Socio-and	487473.000	651	
	Moods and Challenges	Coping	308862.000	651	
	Socio-demographic and Psychological barriers		243222.000	651	
Corrected Total	Personal, emotional Academic Challenges	Socio-and	16236.095	650	
	Moods and Challenges	Coping	18612.359	650	
	Socio-demographic and Psychological barriers		19658.104	650	

Source: Field Data

Table 5 showed the results for the Tests of Between-Subjects Effects to substantiate the differences observed in the multivariate analysis. Before going further to report, it was important to follow protocols purposely to avoid Type I statistical error (establishing a difference where indeed, there was none). In controlling for Type I Error, Bonferroni simple formular ($.05/3=.0167$) was considered to arrive at a new alpha level of .0167 purposely for establishing a true difference (Tabachnick & Fidell, 2013, p. 272). After which, the results for the dependent variables were separately considered using the new alpha level of .0167. Careful examination showed statistical difference existed only in mood and coping challenges of students, $F(1, 649) = 6.05$, $p = .014$, partial eta squared = .009. Concerning the effect sizes established, mood and coping challenges were small based on Cohen (1988, p. 284-287).

Inspection of the mean scores revealed that male sandwich students in a certain College of Education experience mood and coping challenges than their female counterparts in terms of transitional challenges. In this regard, the null hypothesis is rejected in favour of the alternate hypothesis. The findings of the current study debunked a contrary study conducted in Ghana by Edjah, Domey, and Ankomah (2019). Their study revealed, among others, that male first year university students experienced less transitional

challenges than their female counterpart. Conversely, Surekha’s (2008) study findings contradict the revelation of the current study revelation that female transiting students experience more transitional problems than their male colleagues. However, Muntazir and Kermane’s (2015) study findings neither supports or opposes the current study revelation as no differences were recorded between male and female in transitional problems among transiting university students. Therefore, gender could not contribute to any challenge transiting student experienced in the university (Muntazir & Kermane, 2015). Thus, it is not convincing to state that a particular gender suffers the most than the other among first year university students, hence, no superiority could be assigned because transitional situations could be diverse based on context and geographical settings.

Research Hypothesis Two

The study investigated differences in transitional challenges based on programmes read by students. In this case, the independent variables were Home Economics Education and Arts Education while dependent variables were personal, socio-emotional, and academic; moods and coping; socio-demographic and psychological barriers. Based on the nature of the variables, differences could only be conducted using MANOVA after assumptions were satisfied. Table 6 presents the descriptive statistics of the multivariate analysis:

Table 6: Descriptive Statistics based on Programmes

Subscales	Programme	M	SD	N
Personal, Socio-emotional and Academic Challenges	Home Economics	27.01	4.64	145
	Arts Education	26.88	5.10	506
	Total	26.90	5.00	651
Moods and Coping Challenges	Home Economics	20.90	5.68	145
	Arts Education	21.18	5.26	506
	Total	21.12	5.35	651
Socio-demographic and Psychological barriers	Home Economics	18.82	6.06	145
	Arts Education	18.45	5.33	506
	Total	18.53	5.50	651

Source: Field Data

Table 6 showed that descriptive results of the variables indicating that differences existed in the mean scores of the programme of respondents against transitional challenges (personal, socio-emotional, and academic; moods and coping; socio-demographic and psychological barriers). For instance, students pursuing home economics (M=27.01, SD=4.64) experienced personal, socio-emotional, and academic challenges students pursuing arts education (M=26.88, SD=5.10). In terms of mood and coping challenges, students pursuing arts education (M=21.18, SD=5.26) experienced them than students pursuing home economics (Mean=20.90, SD=5.68). Furthermore, students pursuing home economics (Mean= 18.82, SD=6.06) experienced socio-demographic and psychological barriers than students pursuing arts education (Mean=18.53, SD=5.50). There were differences observed descriptively, but then, these might not be statistically significant so there was the need for further examination using the Multivariate Test from the MANOVA analysis. Table 7 presents the results:

Table 7: Multivariate Tests based on Programmes

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.962	5415.735	3.000	647.000	.000	.962
	Wilks' Lambda	.038	5415.735	3.000	647.000	.000	.962
	Hotelling's Trace	25.112	5415.735	3.000	647.000	.000	.962
	Roy's Largest Root	25.112	5415.735	3.000	647.000	.000	.962
Programme	Pillai's Trace	.002	.470	3.000	647.000	.704	.002
	Wilks' Lambda	.998	.470	3.000	647.000	.704	.002
	Hotelling's Trace	.002	.470	3.000	647.000	.704	.002
	Roy's Largest Root	.002	.470	3.000	647.000	.704	.002

Source: Field Data (2020)

Table 7 presents the results of the multivariate tests (MANOVA) that indicated statistical differences between home economics students and arts education students concerning their transitional challenges. In examining the Table 7, the Wilks' Lambda results showed no significant difference existed in students' programmes of study in terms of transitional challenges. Thus, $F(3, 647) = .470$, $p = .704$; Wilks' Lambda=1.00, partial eta squared =.002. Based on the no significant difference detected, there was no need to study the Tests of Between-Subjects Effects but to conclude based on the fact that no differences existed in students' transitional challenges by comparing the programmes they pursue. Therefore, the null hypothesis was not rejected. The findings indicate that irrespective of the programme a student pursues, it has no role in determining the transitional challenges one may face at the beginning to the end of the programme. Presumably, it is clear that transitional challenges experienced by new university

students do not consider the programmes pursued by students and challenges faced by such students are not measured in terms of the kind of academic programme they enrol to pursue. Hence, no authority expatiates the fact that students starting university may differ in their transitional challenges in terms of their academic programme choice.

Conclusions

Once education cannot be discarded from humanity, its consequences are bound to be felt. The researchers conclude that students who pursue academic programmes through the sandwich streams are faced with transitional challenges just like their counterparts who pursue their academic programmes through regular stream but just challenges might be severe as most academic works are compacted for a very short time unlike those in regular. Such transitional challenges have no regard for gender as both could be affected but males could be challenged more than their female counterparts. However, transitional challenges could not be attributed to the kind of academic programme a student enrolls to pursue.

Recommendations

Based on the conclusion, it is recommended that managers and planners of such sandwich academic programmes put remedial measures in place to control the rippling effect of transitional challenges students may encounter as they enrol to pursue their desired academic programmes. Such remedial programmes could be constant guidance and counselling programmes offered for troubled students, organisation of fora for students bring forth what could hinder their successful integration and above all, going virtual for students to pursue such programmes in the comfort of their homes without necessarily travelling from far distances to any of the satellite campuses.

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